NEXCOM International Co., Ltd.

Industrial Computing Solutions

Video Intelligent Surveillance

NViS 3540/3540H/3540P4/3540P8

User Manual

NEXCOM International Co., Ltd.
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www.nexcom.com

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PREFACE

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Acknowledgements

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Regulatory Compliance Statements

This section provides the FCC compliance statement for Class B devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2002/95/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2006 will be RoHS compliant. They will use the usual NEXCOM naming convention.

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Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

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Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needlenose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

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Safety Precautions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.
7. Do not leave this equipment in either an unconditioned environment or in a above 40°C storage temperature as this may damage the equipment.
8. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
9. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
10. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
13. Never pour any liquid into an opening. This may cause fire or electrical shock.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
15. If one of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.

    b. Liquid has penetrated into the equipment.

    c. The equipment has been exposed to moisture.

    d. The equipment does not work well, or you cannot get it to work according to the user's manual.

    e. The equipment has been dropped and damaged.

    f. The equipment has obvious signs of breakage.
16. Do not place heavy objects on the equipment.
17. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
18. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
19. The computer is provided with CD drives that comply with the appropriate safety standards including IEC 60825.

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Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.
2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.
3. CompactFlash: Turn off the unit's power before inserting or removing a CompactFlash storage card.

Conventions Used in this Manual

Warning: Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution: Information to avoid damaging components or losing data.

Note: Provides additional information to complete a task easily.

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Package Contents

Before continuing, verify that the NViS 3540/3540H/3540P4/3540P8 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Description		Qty
1	60233POW33X00	DC Power Cable		1
2	6023344361X00	DB44 to 4x DB9 COM port cable		1
3	6029900037X00	DOW CORNING 340 Silcone Heat Sink Compound (3g)		1
4	4NCPM00203X00	2 Pin Phoenix Contact: MC 1.5/2-ST-3.81(1803578), 3.81mm pitch		1
5	50311F0110X00	Flat Head Screw for HDD F3x5 ISO+NYLOK NIGP		4
6	602DCD0269X00	NISB3500 CD DRIVER VER:1.0		1
7	7800000014X00	DVI-I TO VGA Adapter		1
8	5060600087X00	Mylar for PCI bracket		1
9	60177A0205X00	NISB3500 Quick Reference Guide VER:A		1
10	50311P0001X00	Plastic Screw for PCI card use		1
11	60233MK202X00	PS/2 Y Cable for Keyboard / Mouse, L:150mm		1
12	50322P0001X00	Plastic Nut for PCI card use		1
13		1. D-Type integrated cable Video & Audio input x4 TV-out x2 2. Surveillance system user manual 3. Surveillance CD/driver Note: For NViS 3540H only.		1

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Ordering Information

The following provides ordering information for NViS 3540/3540H/3540P4/3540P8.

- **Barebone**

  NViS 3540 (P/N: 10C0035400X0) RoHS Compliant
  - Mobile Surveillance with Intel® Core™ i7/ i5 System
  - 1 PCIe x1 expansion slot
  - 19V, 120W AC/DC power adapter w/o power cord (P/N: 7410120002X00)

  NViS 3540H (P/N: 10C03540H00X0) RoHS Compliant
  - 4-channel Mobile Surveillance with Intel® Core™ i7/ i5 System
  - 19V, 120W AC/DC power adapter w/o power cord (P/N: 7410120002X00)

  NViS 3540P4 (P/N: 10C0354P0X0) RoHS Compliant
  - Intel® Core™ i7/i5 system
  - 4 PoE ports
  - 2180 24V, 180W power adapter w/o power core (P/N:7400180002x00)

  NViS 3540P8 (P/N:10C03540P01X0) RoHS Compliant
  - Mobile NVR Surveillance with Intel® Core™ i7/ i5 System
  - 8 PoE ports
  - 24V, 180W AC/DC power adapter w/o power cord (P/N:7400180002X00)

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Chapter 1: Product Introduction

Overview

NViS 3540

Front

Rear

Key Features

- Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® Gigabit Ethernet ports
- Dual VGA or VGA/DVI Independent Display
- 3x RS232 and 1x RS232/422/485 with Auto Flow Control
- Fanless
- 1 PCI expansion slot
- Onboard DC to DC power design to support 9V to 30V DC power input

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NViS 3540H

Front

Rear

Key Features

- Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® Gigabit Ethernet ports
- Dual VGA or VGA/DVI Independent Display
- 3x RS232 and 1x RS232/422/485 with Auto Flow Control
- Fanless
- Onboard DC to DC power design to support 9V to 30V DC power input
- 4-Channel Full D1 (720x480 NTSC, 720x576 PAL) Display/Recording
- Total 120 FPS (NTSC), 1000 FPS (PAL)
- NViS Hybrid Software

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NViS 3540P4

Front

Rear

Key Features

- Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® Gigabit Ethernet ports
- Dual VGA or VGA/DVI Independent Display
- 3x RS232 and 1x RS232/422/485 with Auto Flow Control
- Smart fan
- 4 ports PoE switch
- Onboard DC to DC power design to support 9V to 30V DC power input

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NViS 3540P8

Front

Rear

Key Features

- Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® Gigabit Ethernet ports
- Dual VGA or VGA/DVI Independent Display
- 3x RS232 and 1x RS232/422/485 with Auto Flow Control
- Smart fan
- 8 ports PoE switch
- Onboard DC to DC power design to support 9V to 30V DC power input

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Hardware Specifications

Main Board

- NISB 3500
- Onboard Mobile Intel® QM57 Platform Controller Hub
- Supports Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Supports Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Supports Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory

- 2x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, unbuffered and non-ECC

Note: The actual memory size is dynamic. It is based on the OS I/O resource allocation.

I/O Interface - Front

- ATX power on/off switch
- HDD Access / Power status LEDs
- 2x USB 2.0 ports
- 2x eSATA ports
- 1x 2.5" HDD with Hot Swap (NViS 3540/3540H/3540P4 only)

I/O Interface - Rear

- 2-pin Remote Power on/off switch
- 9 ~ 30V DC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB15 male connector for GPIO (4x digital-input and 4x digital-output)
- 1 x DB44 Serial Port for 4x RS232
  (COM2: RS232/422/485 with Auto Flow Control)
- 2 x Gbe LAN ports
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-D Port
- 1 x Speaker-out
- 1 x Mic-in

Device

- 2x 2.5" HDD drive bays (NViS 3540P8 only)
- 1x 2.5" HDD drive bay and 1x 2.5" hot swappable drive bay (NViS 3540/3540H/3540P4 only)

Expansion

- 1 PCI expansion slot (NViS 3540 only)
- 1x 4-channel Hybrid capture card (NViS 3540H only)
- 4 ports PoE switch (NViS 3540P4 only)
- 8 ports PoE switch (NViS 3540P8 only)

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Power Requirements
- ATX power mode
- Onboard DC to DC power support from 9V to 30V DC
- Optional power adapter

Dimensions
- 195mm (W) x 268mm (D) x 80mm (H) - NViS 3540/3540H only
- 235mm (W) x 268 mm (D) x 80mm (H) - NViS 3540P4/3540P8 only

Construction
- Aluminum chassis
  - Fanless (NViS 3540/3540H only)
  - With Smart Fan (NViS 3540P4/3540P8 only)

Environment
- Operating temperature:
  Ambient with airflow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (Non-Condensing)

Certifications
- CE approval
- FCC Class B
- e13 Mark

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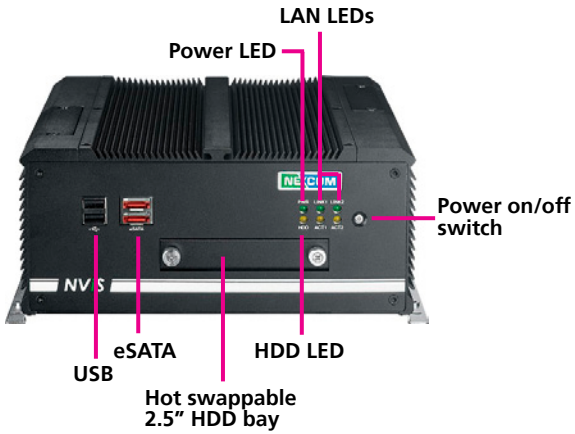
Getting to Know NViS 3540 Series

Front Panel



USB
Used to connect USB 2.0/1.1 devices.

eSATA
Used to connect eSATA devices.

Hot Swappable 2.5" HDD Bay (NViS 3540/3540H/3540P4 only)
Used to install a hot swappable 2.5" HDD drive.

Power LED
Indicates the power status of the system.

HDD LED
Indicates the status of the hard drive.

LAN LEDs
Indicate the status of the LAN ports.

Power On/Off Switch
Press to power-on or power-off the system.

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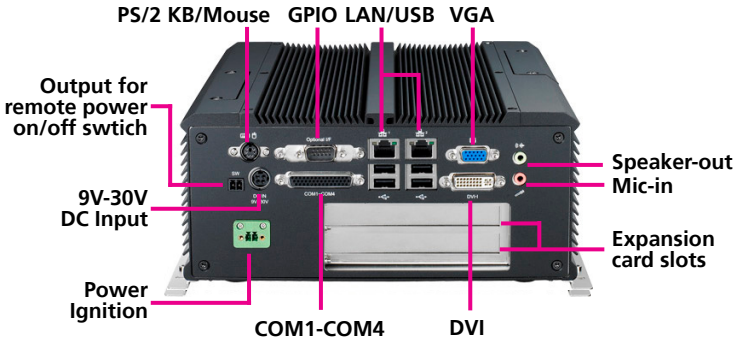
Rear Panel of NViS 3540



Output for Remote Power On/Off Switch
Used to connect a remote to power on/off the system.

PS/2 Keyboard/Mouse
Used to connect a PS/2 keyboard and PS/2 mouse via a cable.

9V-30V DC Input
Used to plug a DC power cord.

GPIO
The GPIO connector supports 4 digital input and 4 digital output.

COM1 to COM4
The DB44 port supports 3 RS232 and 1 RS232/422/485 compatible serial devices.

LAN
Used to connect the system to a local area network.

USB
Used to connect USB 2.0/1.1 devices.

VGA
Used to connect an analog VGA monitor.

DVI
Used to connect a digital LCD panel.

Speaker-out
Used to connect a headphone or a speaker.

Mic-in
Used to connect an external microphone.

Expansion Slots
One PCI expansion slot.

Power Ignition
Used to connect to power ignition module (NISKIG120).

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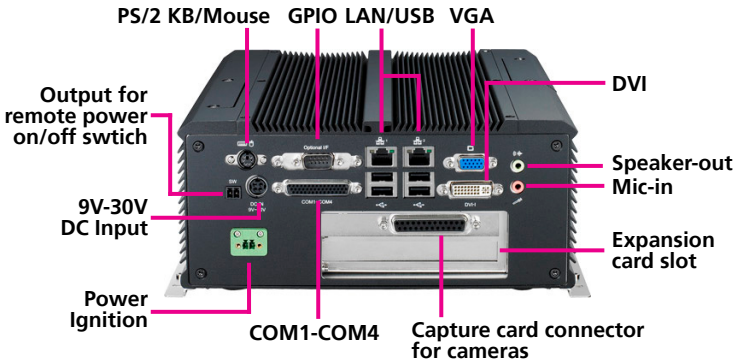
Rear Panel of NViS 3540H



Output for Remote Power On/Off Switch
Used to connect a remote to power on/off the system.

PS/2 Keyboard/Mouse
Used to connect a PS/2 keyboard and PS/2 mouse via a cable.

9V-30V DC Input
Used to plug a DC power cord.

GPIO
The GPIO connector supports 4 digital input and 4 digital output.

COM1 to COM4
The DB44 port supports 3 RS232 and 1 RS232/422/485 compatible serial devices.

LAN
Used to connect the system to a local area network.

USB
Used to connect USB 2.0/1.1 devices.

VGA
Used to connect an analog VGA monitor.

DVI
Used to connect a digital LCD panel.

Speaker-out
Used to connect a headphone or a speaker.

Mic-in
Used to connect an external microphone.

Capture Card
Supports 4-channel full-D1 SD feature.

Power Ignition
Used to connect to power ignition module (NISKIG120).

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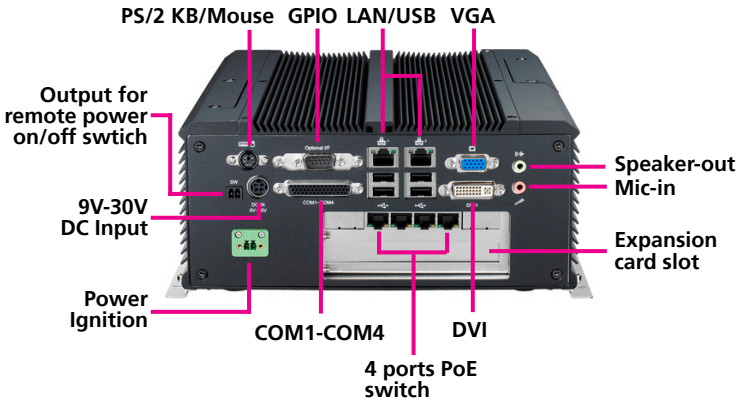
Rear Panel of NViS 3540P4



Output for Remote Power On/Off Switch
Used to connect a remote to power on/off the system.

PS/2 Keyboard/Mouse
Used to connect a PS/2 keyboard and PS/2 mouse via a cable.

9V-30V DC Input
Used to plug a DC power cord.

GPIO
The GPIO connector supports 4 digital input and 4 digital output.

COM1 to COM4
The DB44 port supports 3 RS232 and 1 RS232/422/485 compatible serial devices.

LAN
Used to connect the system to a local area network.

USB
Used to connect USB 2.0/1.1 devices.

VGA
Used to connect an analog VGA monitor.

DVI
Used to connect a digital LCD panel.

Speaker-out
Used to connect a headphone or a speaker.

Mic-in
Used to connect an external microphone.

4 Ports PoE Switch
Allows connecting 4 IP security cameras.

Power Ignition
Used to connect to power ignition module (NISKIG120).

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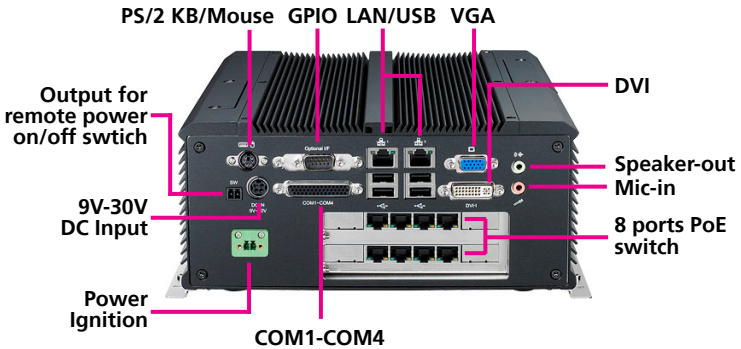
Rear Panel of NViS 3540P8



Output for Remote Power On/Off Switch
Used to connect a remote to power on/off the system.

PS/2 Keyboard/Mouse
Used to connect a PS/2 keyboard and PS/2 mouse via a cable.

9V-30V DC Input
Used to plug a DC power cord.

GPIO
The GPIO connector supports 4 digital input and 4 digital output.

COM1 to COM4
The DB44 port supports 3 RS232 and 1 RS232/422/485 compatible serial devices.

LAN
Used to connect the system to a local area network.

USB
Used to connect USB 2.0/1.1 devices.

VGA
Used to connect an analog VGA monitor.

DVI
Used to connect a digital LCD panel.

Speaker-out
Used to connect a headphone or a speaker.

Mic-in
Used to connect an external microphone.

8 Ports PoE Switch
Allows connecting 8 IP security cameras.

Power Ignition
Used to connect to power ignition module (NISKIG120).

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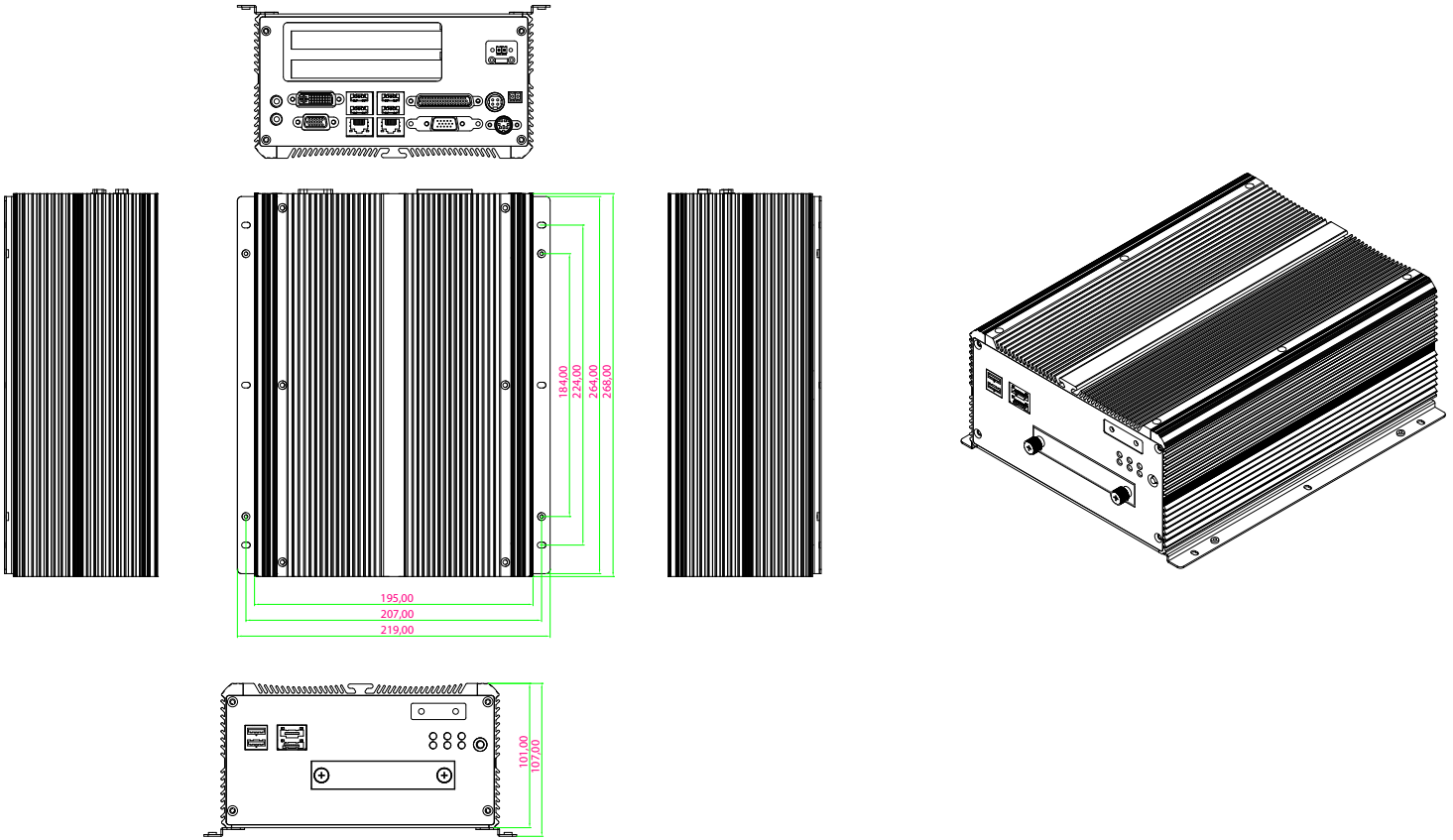
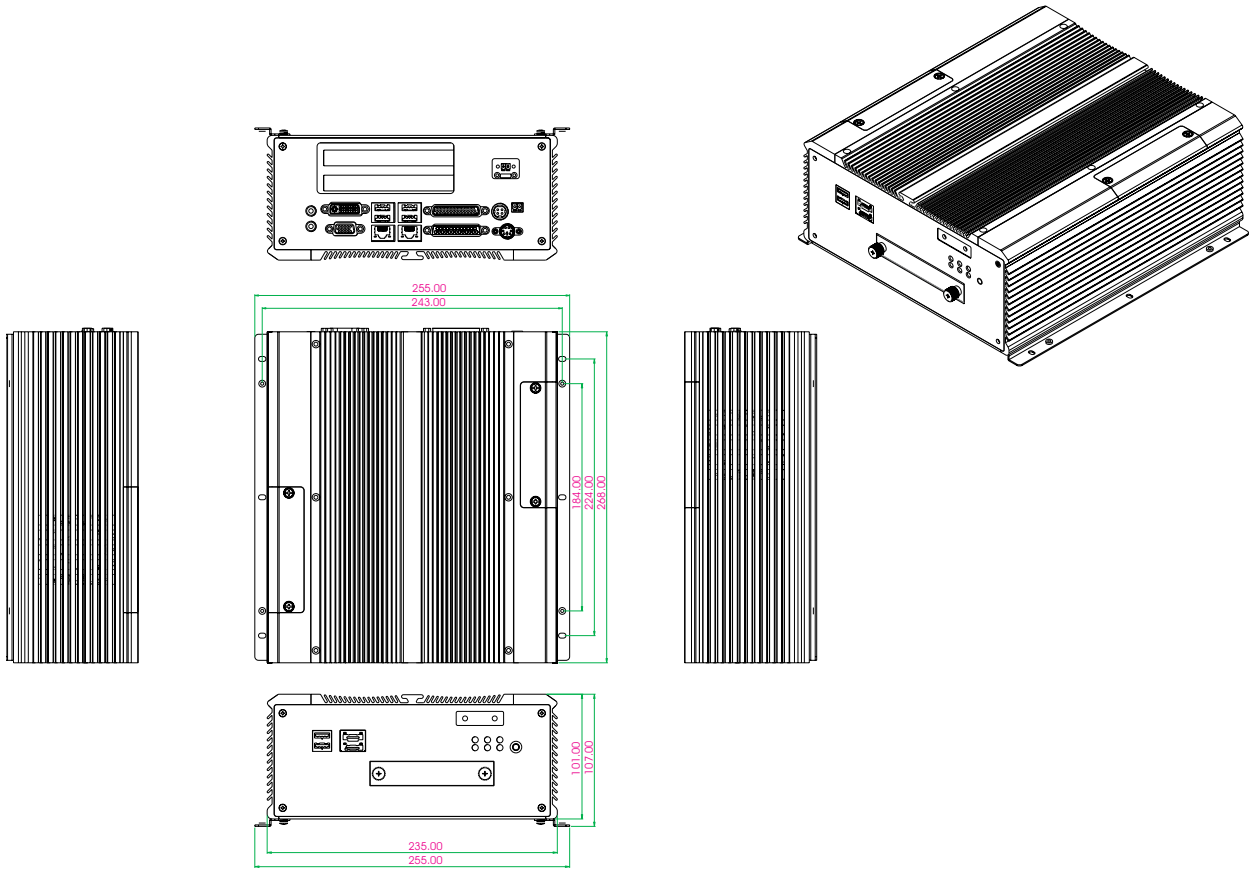
Mechanical Dimensions

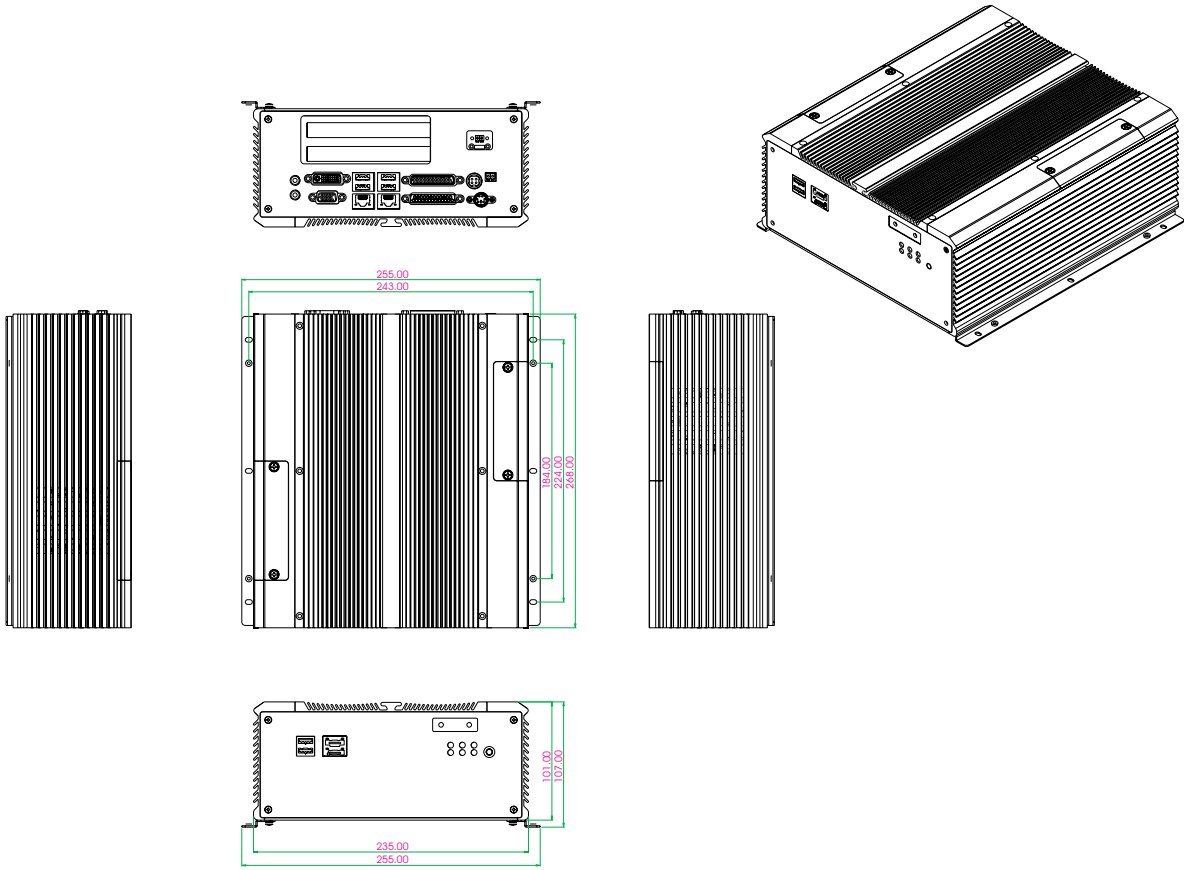
NViS 3540/3540H



NViS 3540P4



NViS 3540P8



Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers on the motherboard. Note that the following procedures are generic for all NViS 3540 series.

Before You Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
  - A Philips screwdriver
  - A flat-tipped screwdriver
  - A set of jewelers Screwdrivers
  - A grounding strap
  - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.
- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environment tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on the computers that are still connected to a power supply can be extremely dangerous.

Follow the guidelines below to avoid damage to your computer or yourself:

- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

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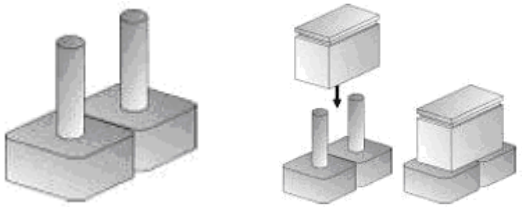
Jumper Settings

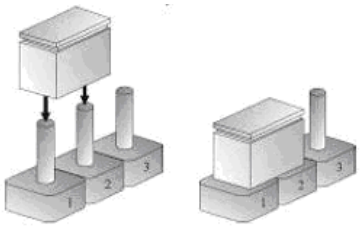
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is **short**. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is **open**.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).

Two-Pin Jumpers: Open (Left) and Short (Right)



Three-Pin Jumpers: Pins 1 and 2 Are Short



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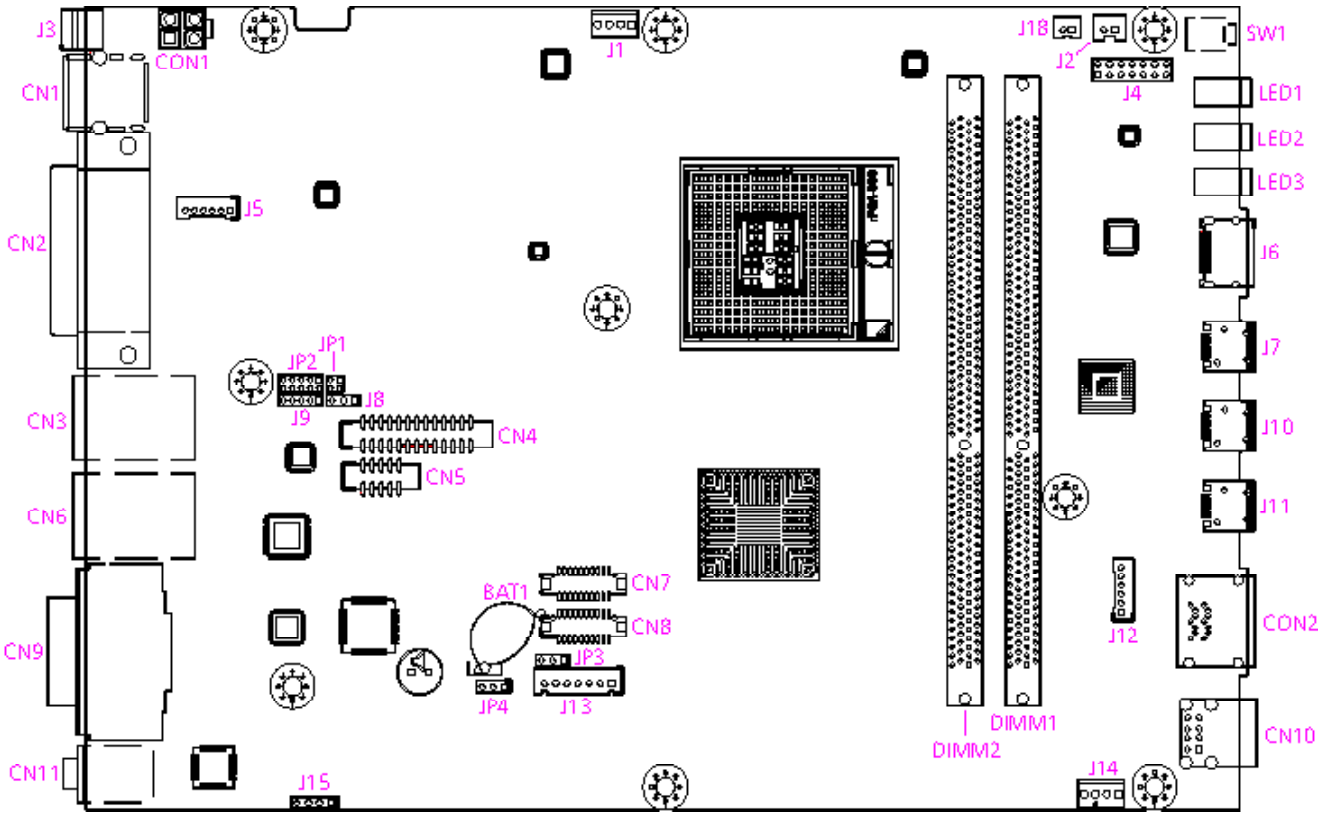
Locations of the Jumpers and Connectors

NISB 3500

The figure below is the top view of the NISB 3500 main board which is the main board used in the NViS 3540 Series system. It shows the locations of the jumpers and connectors.



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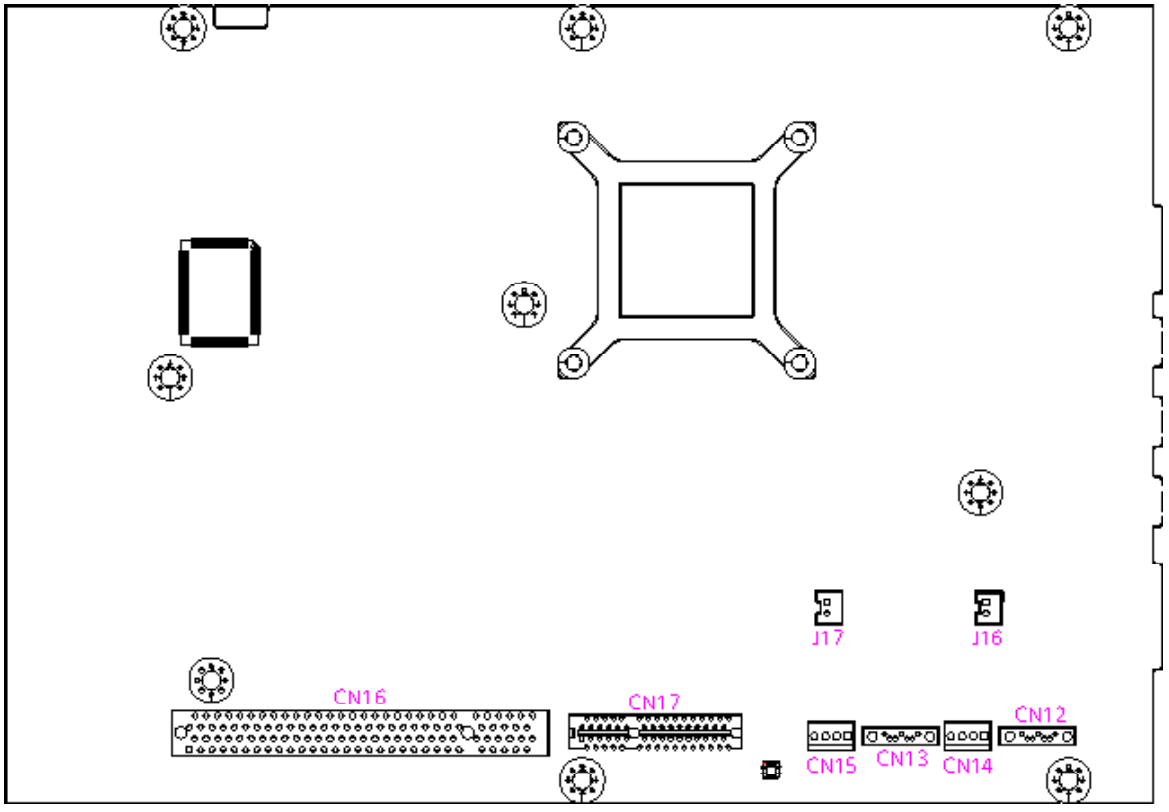
The figure below is the bottom view of the NISB 3500 main board.



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Jumpers

Clear CMOS

Connector size: 1x3 3-pin header, 2.54 mm pitch
Connector location: JP4

Pin	Settings
1-2 On	*Normal
2-3 On	CMOS Clear

1-2 On: default

Pin	Definition
1	RTCRST#_PU
2	RTCRST#
3	CLR_CMOS

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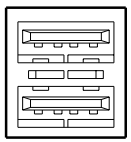
Connector Pin Definitions

External I/O Interface - Front Panel

USB Ports

Connector type: Dual USB port
Connector location: CN10



Pin	Definition	Pin	Definition
1	+5V	7	USB1+
2	USB0-	8	GND
3	USB0+	22	GND
4	GND	23	GND
5	+5V	26	GND
6	USB1-	27	GND

eSATA Ports

Connector type: eSATA port
Connector location: CON2A and CON2B

Pin	Definition	Pin	Definition
1	GND	5	SATA_RXN4
2	SATA_TXP4	6	SATA_RXP4
3	SATA_TXN4	7	GND
4	GND		

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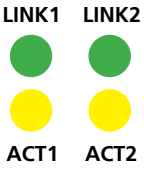
Status Indicators

Status	LED Color
PWR	Green
HDD	Yellow

LAN1/LAN2 Link/Active LED

Connector location: LED1 and LED2



Pin	Definition
C1	LAN2_LINK_N
C2	LAN2_ACT_N
A1	LAN2_LINK_P
A2	LAN2_ACT_P

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ATX Power On/Off Switch

Connector location: SW1

Pin	Definition
On	Blue light
Off	Red light

Pin	Definition	Pin	Definition
1	GND	2	PBT_PU
3	PBT_PU	4	GND
A1	PWRLED_N	C1	PWRLED_P

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External I/O Interface - Rear Panel

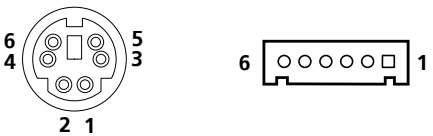
Remote Power On/Off Switch

Connector type: 2-pin switch
Connector location: J3

Pin	Definition
1	GND
2	PBT_PU

PS/2 Keyboard/Mouse Port

Connector type: PS/2, Mini-DIN-6, JST-2.0mm-M-180
Connector location: J5



Pin	Definition	Pin	Definition
1	5VSB	2	KDAT
3	KCLK	4	MDAT
5	MCLK	6	GND

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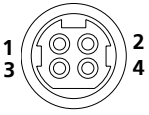
9V-30V DC Input

Connector type: POWER-F-90
Connector location: CN1

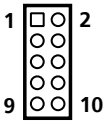


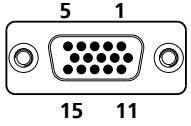
Pin	Definition	Pin	Definition
1	VIN	2	VIN
3	GND	4	GND
5	GND		

GPIO Connector

(4 digital input and 4 digital output)

Connector type: DB-15 port, 2x5 10-pin header, 2.0 mm-M-180
Connector location: JP2





Pin	Definition	Pin	Definition
1	VCC5	2	GND
3	SIO_GPO24	4	SIO_GPI20
5	SIO_GPO25	6	SIO_GPI21
7	SIO_GPO26	8	SIO_GPI22
9	SIO_GPO27	10	SIO_GPI23

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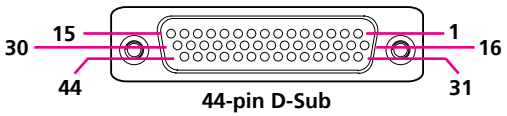
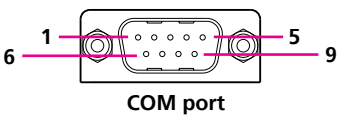
Serial Interface (COM 1 - COM 4)

Connector type: 44-pin D-Sub, 2x22 (12.55mm x 53.04mm)
Connector location: CN4



The 44-pin D-Sub connector is used to connect 4 external serial devices. Use the COM ports on the provided "DB44 to 4x DB9 COM port cable" (included in the package) to connect the devices.



Pin	Definition	Pin	Definition
1	CN10_1	2	CN10_2
3	CN10_3	4	CN10_4
5	GND	6	CN10_6
7	CN10_7	8	CN10_8
9	CN10_9	10	GND
11	CN10_11	12	CN10_12
13	CN10_13	14	CN10_14
15	GND	16	CN10_16
17	CN10_17	18	CN10_18
19	CN10_19	20	GND
21	CN10_21	22	CN10_22
23	CN10_23	24	CN10_24
25	GND	26	CN10_26
27	CN10_27	28	CN10_28
29	CN10_29	30	GND
31	CN10_31	32	CN10_32
33	CN10_33	34	CN10_34
35	GND	36	CN10_36
37	CN10_37	38	CN10_38
39	SP4_RI_TI	40	GND
41	NC	42	NC
43	NC	44	NC

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COM1 (RS232) labelled "A" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
1	1	DCD1	2	2	RXD1
3	3	TXD1	4	4	DTR1
5	5	GND	6	6	DSR1
7	7	RTS1	8	8	CTS1
9	9	RI1	10		GND

COM2 (RS232) labelled "B" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
11	1	DCD2	12	2	RXD2
13	3	TXD2	14	4	DTR2
15	5	GND	16	6	DSR2
17	7	RTS2	18	8	CTS2
19	9	RI2	20		GND

COM3 (RS232) labelled "C" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
21	1	DCD3	22	2	RXD3
23	3	TXD3	24	4	DTR3
25	5	GND	26	6	DSR3
27	7	RTS3	28	8	CTS3
29	9	RI3	30		GND

COM1 (RS232) labelled "D" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
31	1	DCD1	32	2	RXD1
33	3	TXD1	34	4	DTR1
35	5	GND	36	6	DSR1
37	7	RTS1	38	8	CTS1
39	9	RI1	40		GND

Note: Pin 39 is defined as an external power source, which can be selected for 5V or 12V using JP10.

COM2 (RS422) labelled "B" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
11	1	TXD-	12	2	TXD+
13	3	RXD+	14	4	RXD-
15	5	GND	16	6	RTS-
17	7	RTS#	18	8	CTS+
19	9	CTS-	20		GND

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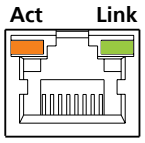
COM2 (RS485) labelled "B" on DB9 Cable Connector					
DB44 Pin #	**DB9 Pin #**	**Def.**	**DB44 Pin #**	**DB9 Pin #**	**Def.**
11	1	TXD-	12	2	TXD+
		RXD-			RXD+
13	3	Reserved	14	4	Reserved
15	5	Reserved	16	6	Reserved
17	7	Reserved	18	8	Reserved
19	9	Reserved	20		Reserved

LAN Ports

Connector type: RJ45 port with LEDs
Connector location: CN3B and CN6B



Act	Status
Orange Blinking	Data Activity
Off	No Acitivity

Link	Status
Green Always Lighted	Linked
Off	No Link

Pin	Definition	Pin	Definition
09	LAN1_M0P	10	LAN1_M0N
11	LAN1_M1P	12	LAN1_M2P
13	LAN1_M2N	14	LAN1_M1N
15	LAN1_M3P	16	LAN1_M3N
17	LAN1_LED1P	18	LAN1_LED_ACT#
19	LAN1_LED2P	20	LAN1_LINK#
21	GND	24	GND
25	GND	28	GND

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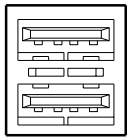
USB Ports

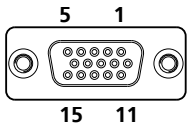
Connector type: Dual USB port
Connector location: CN3A and CN6A



Pin	Definition	Pin	Definition
1	+5V	7	USB1+
2	USB0-	8	GND
3	USB0+	22	GND
4	GND	23	GND
5	+5V	26	GND
6	USB1-	27	GND

VGA Port

Connector type: DB-15 port, 15-pin D-Sub
Connector location: CN9B



Pin	Definition	Pin	Definition
25	RED_VGA	26	GREEN_VGA
27	BLUE_VGA	28	GND
29	GND	30	GND
31	GND	32	GND
33	VGA_+5V	34	GND
35	GND	36	DATA_V
37	HS_VGA	38	VS_VGA
39	CLK_V		

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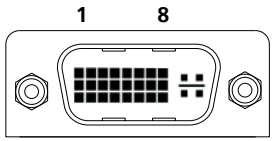
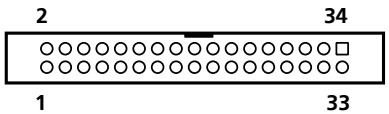
DVI-I Port

Connector type: 30-pin D-Sub, 2.0mm-M-180
Connector location: CN9A

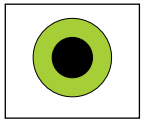




Pin	Function	Pin	Function
01	HDMI_DATA2_N	2	HDMI_DATA2_P
03	DVI_GND	4	NC
05	NC	6	HDMI_CTL_CLK
07	HDMI_CTL_SDA	8	DC_VSYNC_VGA
09	HDMI_DATA1_N	10	HDMI_DATA1_P
11	DVI_GND	12	NC
13	NC	14	HDMIC_PWR_S
15	DVI_GND	16	HDMIC_HPDET
17	HDMI_DATA0_N	18	HDMI_DATA0_P
19	DVI_GND	20	DC_DATA_VGA
21	DC_CLK_VGA	22	NC
23	HDMI_LKP	24	HDMI_LKN
C1	DC_RED_VGA	C2	DC_GREEN_VGA
C3	DC_BLUE_VGA	C4	DC_HSYNC_VGA
C5A	DVI_GND	C5B	DVI_GND

Speaker-out Jack

Connector type: 5-pin jack
Connector location: CN11B



Pin	Definition
1	GND
2	SPK_Out_R
3	NC
4	NC
5	SPK_Out_L

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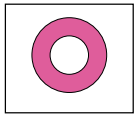
Mic-in Jack

Connector size: 5-pin jack, 25.9x12.6x17.0mm
Connector location: CN11A



Pin	Definition
1	AU_GND
2	MIC_OUT-L
3	AU_GND
4	MIC_JD1
5	MIC_OUT-R

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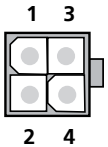
Internal Connectors

ATX Power Output Connector

Connector type: 2x2 Aux power connector
Connector location: CON1



Pin	Definition
1	GND
2	GND
3	VIN
4	VIN

Reset Connector

Connector type: 1x2 2-pin header, JST 2.5mm-M-90
Connector location: J2

Pin	Definition
1	RESET#
2	GND

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SMBus DATA/CLK Pin Header

Connector type: 1x3 3-pin header 2.54mm-M-180
Connector location: J8

Pin	Definition
1	SMB_CLK
2	SMB_DATA
3	GND

LVDS Backlight Power Select

Connector type: 1x3 3-pin header 2.54mm-M-180
Connector location: JP3

Pin	Definition
1	VCC5
2	PANEL1_VDD
3	VCC3

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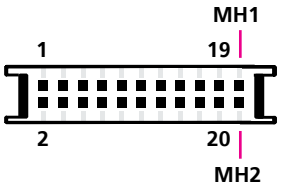
LVDS Channel A Connector

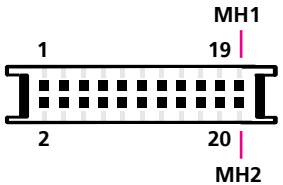
Connector type: LCD-1.25mm-M-180
Connector location: CN7



Pin	Definition	Pin	Definition
1	L_DDC_CLK	2	L_DDC_DATA
3	VDD	4	LA_DATAP0
5	LA_DATAP3	6	LA_DATAN0
7	LA_DATAN3	8	VDD
9	GND_LVDS	10	LA_DATAP1
11	LA_CLKP	12	LA_DATAN1
13	LA_CLKN	14	GND_LVDS
15	GND_LVDS	16	PANEL1_BACKLIGHT
17	LA_DATAP2	18	PANEL1_BACKLIGHT
19	LA_DATAN2	20	GND_LVDS

LVDS Channel B Connector

Connector type: LCD-1.25mm-M-180
Connector location: CN8



Pin	Definition	Pin	Definition
1	L_DDC_CLK	2	L_DDC_DATA
3	VDD	4	LB_DATAP0
5	LB_DATAP3	6	LB_DATAN0
7	LB_DATAN3	8	VDD
9	GND_LVDS	10	LB_DATAP1
11	LB_CLKP	12	LB_DATAN1
13	LB_CLKN	14	GND_LVDS
15	GND_LVDS	16	PANEL1_BACKLIGHT
17	LB_DATAP2	18	PANEL1_BACKLIGHT
19	LB_DATAN2	20	GND_LVDS

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LVDS Backlight Connector

Connector type: 1x7 7-pin header JST-2.5mm-M-180
Connector location: J13

Pin	Definition
1	VCC5
2	PANEL1_BACKLIGHT
3	PANEL1_BACKLIGHT
4	L_BKLTCTL_R
5	GND
6	GND
7	L_BKLTEN

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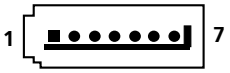
SATA Ports

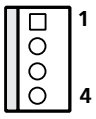
Connector type: Standard Serial ATAII 7P (1.27mm, SATA-M-180)
Connector location: CN12 and CN13



Pin	Definition
1	GND
2	SATA_TXP1
3	SATA_TXN1
4	GND
5	SATA_RXN1
6	SATA_RXP1
7	GND

SATA Power Connectors

Connector type: 4-pin Wafer, 2.54mm-M-180
Connector location: CN14 and CN15



Pin	Definition
1	+12V
2	GND
3	GND
4	VCC5

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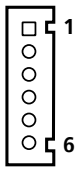
SATA DOM Power Connectors

Connector type: 1x2 2-pin JST wafer, 2.54mm pitch
Connector location: J16 and J17

Pin	Definition
1	+12V
2	GND

USB Port Connector

Connector type: 6-pin boxed header, JST-2.0mm-M-180
Connector location: J12



Pin	Definition
1	+5V
2	GND
3	USB10+
4	USB11-
5	USB11+
6	USB2_GND

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COM4 RI Pin Header

Connector type: 1x5 5-pin header 2.0mm -M-180
Connector location: J9

Pin	Definition
1	VCC5
2	SP4_RI_T
3	+12V
4	SP4_RI_T
5	SP4_R

GPIO LED Connector

Connector type: 2x2 4-pin 2.0mm -M-180
Connector location: JP1

Pin	Definition
1	GPO_LED0
2	GND
3	GPO_LED1
4	GND

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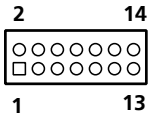
Line-in Connector

Connector type: 1x4 4-pin header 2.5mm-M-180
Connector location: J15

Pin	Definition
1	LINE1-LP
2	GND
3	LINE1-JD
4	LINE1-RP

Internal Power/HDD/LAN Power/LAN Active LED

Connector type: 2x7 14-pin header 2.54mm-M-180
Connector location: J4



Pin	Description	Pin	Description
1	LED_PWRN	2	LED_PWRP
3	HD_LEDN	4	LED_HDDP
5	LAN1_LINK#	6	LAN1_LINKP
7	LAN1_LED_ACT#	8	LAN1_ACTP
9	LAN2_LINK#	10	LAN2_LINKP
11	LAN2_LED_ACT#	12	LAN2_ACTP
13	NC	14	NC

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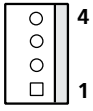
Smart Fan Connectors

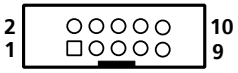
Connector size: 4-pin Wafer, 2.54mm-M-180
Connector location: J1 and J14



Pin	Definition
1	GND
2	+12V
3	CPUFANIN_P
4	CPUFANOUT_R

COM5 Connector

Connector type: 2x5 10-pin boxed header, 2.0mm-M-180
Connector location: CN5



Pin	Definition	Pin	Definition
1	SP5_DCD	2	SP5_RXD
3	SP5_TXD	4	SP5_DTR
5	GND	6	SP5_DSR
7	SP5_RTS	8	SP5_CTS
9	SP5_RI	10	GND

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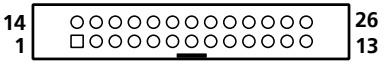
Parallel Connector

Connector size: 2x13 26-pin box header, 2.0mm-M-180
Connector location: CN4



Pin	Definition	Pin	Definition
1	LPT_RP_STB#	14	LPT_AFD#R
2	LPT_RP_PRD0	15	LPT_ERR#
3	LPT_RP_PRD1	16	LPT_INIT#R
4	LPT_RP_PRD2	17	LPT_SLIN#R
5	LPT_RP_PRD3	18	GND_LPT
6	LPT_RP_PRD4	19	GND_LPT
7	LPT_RP_PRD5	20	GND_LPT
8	LPT_RP_PRD6	21	GND_LPT
9	LPT_RP_PRD7	22	GND_LPT
10	LPT_ACK#R	23	GND_LPT
11	LPT_BUSY	24	GND_LPT
12	LPT_PE	25	GND_LPT
13	LPT_SLCT	26	NC

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Chapter 3: System Setup

Removing the Chassis Cover

Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

1. The screws on the cover are used to secure the cover to the chassis.
2. Remove these screws and then put them in a safe place for later use.

The dots denote the locations of the screws.

3. Lift up the cover and then remove it from the chassis.

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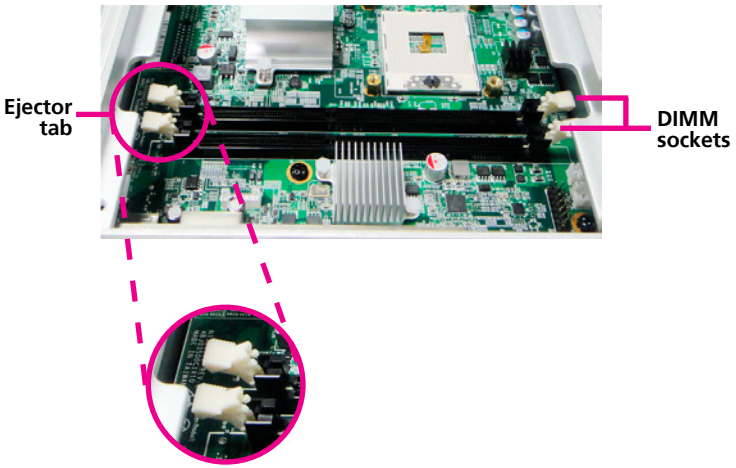
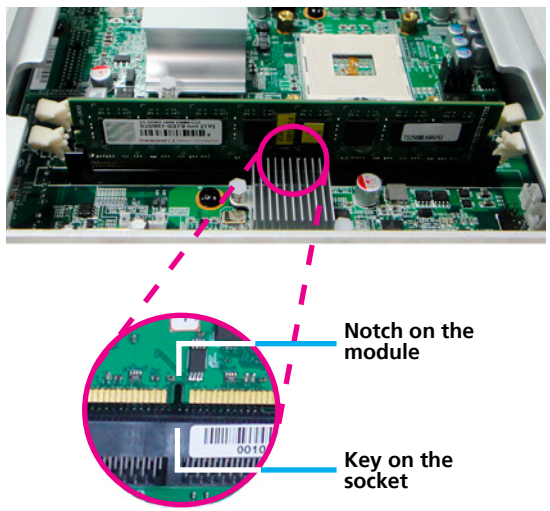
Installing a DIMM

1. Push the ejector tabs which are at the ends of the socket outward. This indicates that the socket is unlocked.



2. Note how the module is keyed to the socket. Grasping the module by its edges, align the module with the socket so that the "notch" on the module is aligned with the "key" on the socket. The key ensures the module can be plugged into the socket in only one direction.



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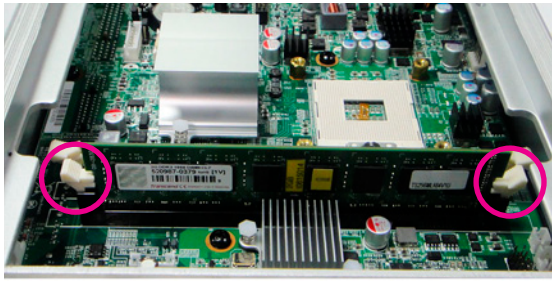
3. Seat the module vertically, pressing it down firmly until it is completely seated in the socket. The ejector tabs at the ends of the socket will automatically snap into the locked position to hold the module in place.



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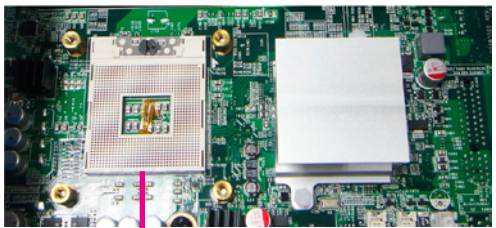
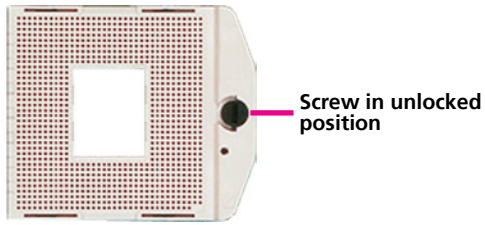
Installing the CPU

1. The CPU socket is readily accessible after you have removed the chassis cover.



- Make sure all power cables are unplugged before you install the CPU.
- The CPU socket must not come in contact with anything other than the CPU. Avoid unnecessary exposure.

2. Make sure the screw is in its unlock position. If it's not, use a screw-driver to turn the screw to its unlock position.



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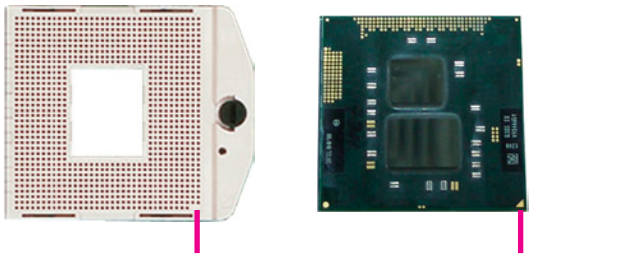
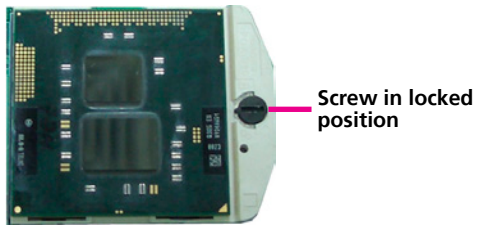
3. Position the CPU above the socket. The gold triangular mark on the CPU must align with pin 1 of the CPU socket.



Handle the CPU by its edges and avoid touching the pins.

4. Insert the CPU into the socket until it is seated in place. The CPU will fit in only one orientation and can easily be inserted without exerting any force. Use a screwdriver to turn the screw to its lock position.



Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.

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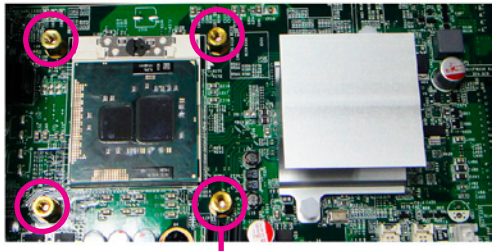
5. Before you install the heat sink, apply thermal paste onto the top of the CPU. Do not spread the paste all over the surface. When you later place the heat sink on top of the CPU, the compound will disperse evenly.

6. Align the mounting holes of the heat sink with the mounting studs on the board and then secure the heat sink with the provided screws.



Mounting stud

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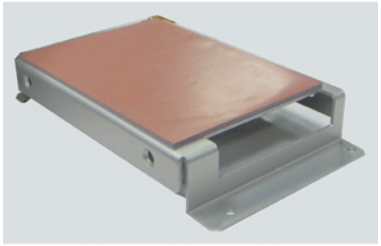
Installing a SATA Hard Drive

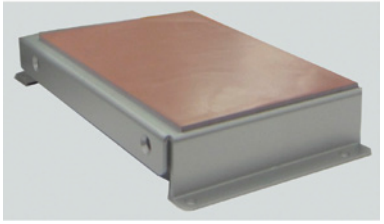
1. With the bottom side of the chassis facing up, remove the screws of the bottom cover.

2. Remove the 4 mounting screws that secure the drive bay to the chassis.

If you are installing one SATA drive only, the system will allow you to install an optional CompactFlash card, a half length SATA DOM or a full length SATA DOM.

3. Remove the drive bay. The drive bay is used to hold a SATA hard drive.





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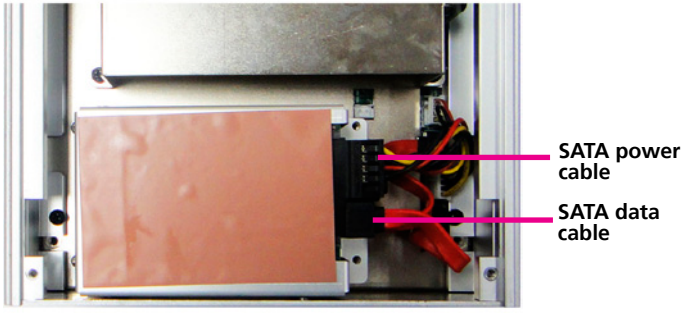
4. Place the SATA hard drive on the drive bay. Make sure the connector side of the SATA drive is facing the opening of the drive bay.

5. Align the mounting holes that are on the sides of the SATA drive with the mounting holes on the drive bay then use the provided mounting screws to secure the drive in place.

6. Connect the SATA data cable and SATA power cable to the connectors on the SATA drive.



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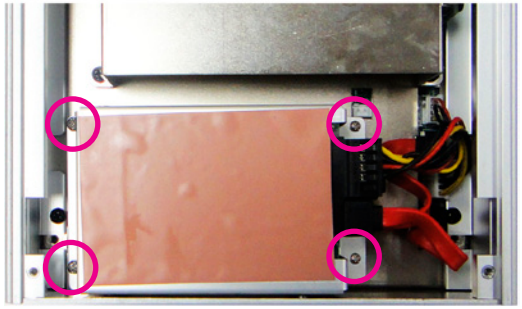
7. Use the provided mounting screws to secure the drive bay to the chassis.



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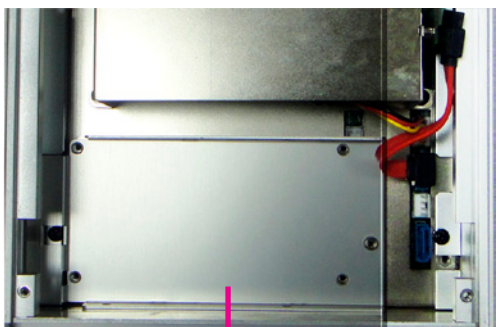
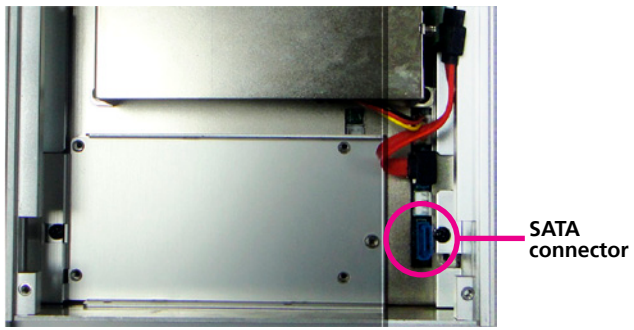
Installing a Half Length SATA DOM with SATA HD

If you intend to install a half length SATA DOM, you may install one SATA hard drive only.

1. Prior to installing the SATA DOM, you must first place the drive bay shown below into the chassis.



2. Locate for the SATA connector on the board.



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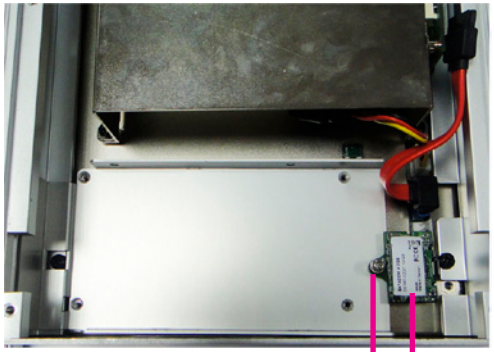
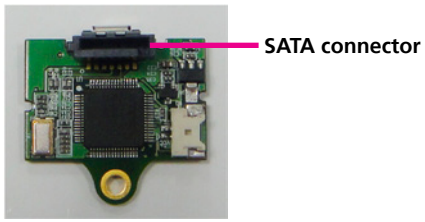
3. Align the SATA connector located on the solder side of the SATA DOM to the SATA connector that is on the board and then press it down firmly. Secure the SATA DOM with the provided mounting screw.





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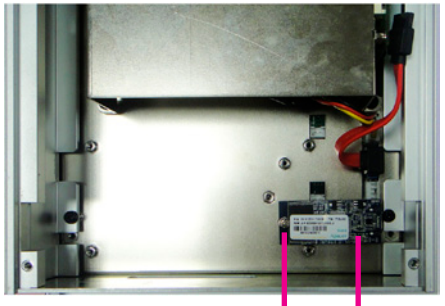
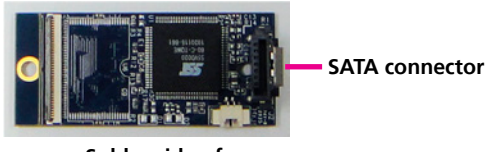
Installing a Full Length SATA DOM

If you intend to install a full length SATA DOM, you may install one SATA hard drive only.

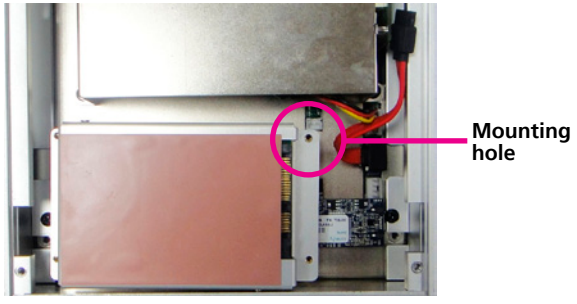
1. Prior to installing the full length SATA DOM, remove any drive bay that may have been previously installed.
2. Locate for the SATA connector on the board.
3. Align the SATA connector located on the solder side of the SATA DOM to the SATA connector that is on the board and then press it down firmly. Secure the SATA DOM with the provided mounting screw.





4. Before installing the single drive bay back, you must first replace the 4 mounting studs.

   Now place the single drive bay by aligning the mounting holes of the drive bay with the mounting studs.



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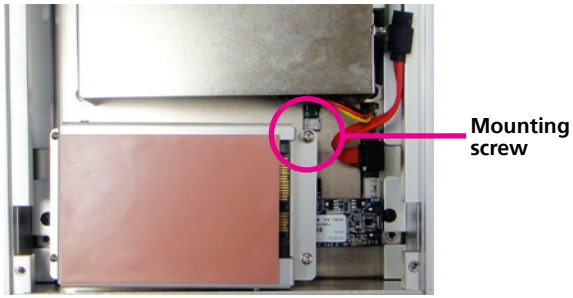
5. Secure the drive bay with the provided mounting screws.



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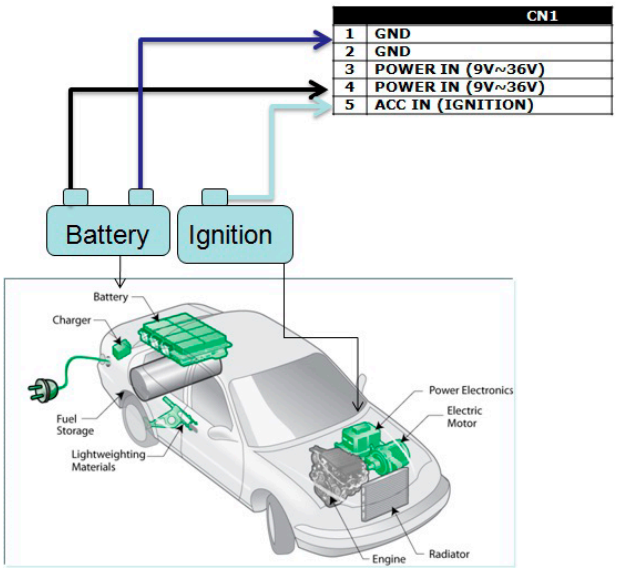
Connecting to the Power Ignition Module (NISKIG120)

Introduction

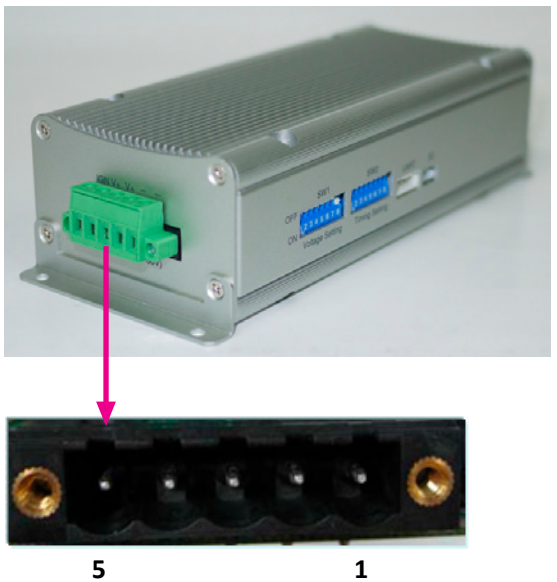
The NISKIG120 is an external power ignition module that provides stable power to NViS 3540 series. Using this module will ensure that the device is well shielded against premature failure at boot/shutdown phase. The following instructions will guide you on how to connect the NISKIG120 to the vehicle's battery/ignition and NViS 3540 series.

The following instructions use NViS 3540P8 as an example, but can be applied to all other NViS 3540 series.

1. Connect the vehicle battery and ignition to the module's power input socket, refer to the pin/wiring definition table below:



Close-up view of the power input:



CAUTION! Recommended wire gauge range: minimum of 10 AWG or above, maximum length of 3 meters.

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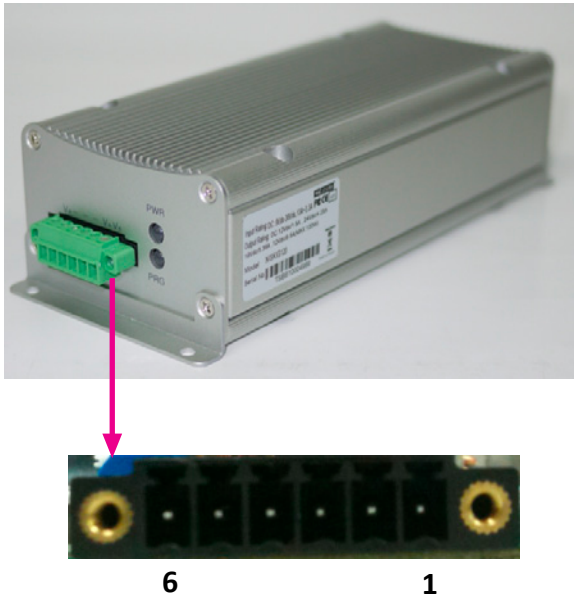
2. Connect the module's DC output to NViS 3540's DC input, refer to the pin/wiring definition table below:

CON1: Power output port	
1	Main Power Out
2	Main Power Out
3	GND
4	GND
5	LVDS GND
6	LVDS POWER OUT (+12V/1A)

Close-up view of the DC output:



Recommended wire gauge range: minimum of 16 AWG or above, maximum length of 3 meters.

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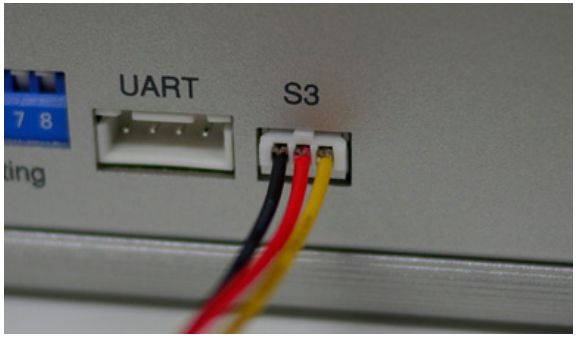
3. Connect the S3 control port to the Power Ignition port, refer to the pin/ wiring definition table below:



J2 : System port	
1	GND
2	Power ON Button (Output)
3	SLP_S3 IN (Input)

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Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for the NViS 3540 series. The BIOS screens provided in this chapter are for reference only and may change if the BIOS is updated in the future.

To check for the latest updates and revisions, visit the NEXCOM Web site at www.nexcom.com.tw.

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters.

These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the setup program affect how the computer performs. It is important, therefore, first to try to understand all the Setup options, and second, to make settings appropriate for the way you use the computer.

When to Configure the BIOS

This program should be executed under the following conditions:

- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the Setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

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Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing <Del> allows you to enter Setup. Another way to enter Setup is to power on the computer and wait for the following message during the POST:

```
TO ENTER SETUP BEFORE BOOT
PRESS <CTRL-ALT-ESC>
Press the <Del> key to enter Setup:
```

Legends

Key	Function
Right and Left arrows	Moves the highlight left or right to select a menu.
Up and Down arrows	Moves the highlight up or down between sub-menus or fields.
<Esc>	Exits to the BIOS Setup Utility.
+ (plus key)	Scrolls forward through the values or options of the highlighted field.
- (minus key)	Scrolls backward through the values or options of the highlighted field.
Tab	Selects a field.
<F1>	Displays General Help.
<F10>	Saves and exits the Setup program.
<Enter>	Press <Enter> to enter the highlighted sub-menu.

Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

When "▶" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press <Enter>.

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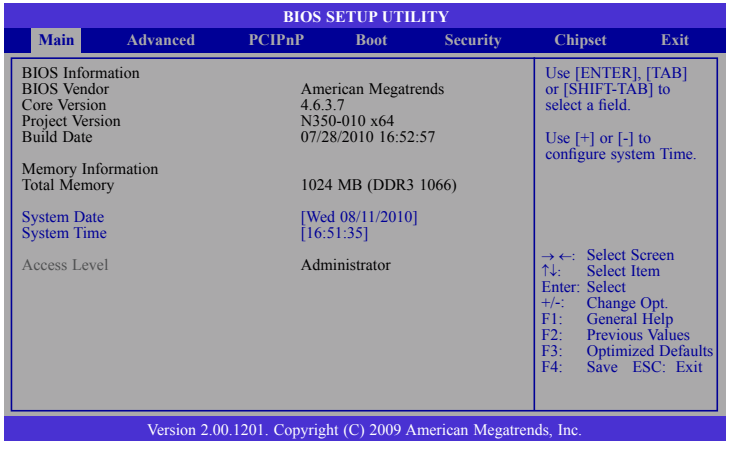
BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from six setup functions and one exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the submenu.

Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



BIOS Information

Displays the detected BIOS information.

Memory Information

Displays the detected system memory information.

System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1999 to 2099.

System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

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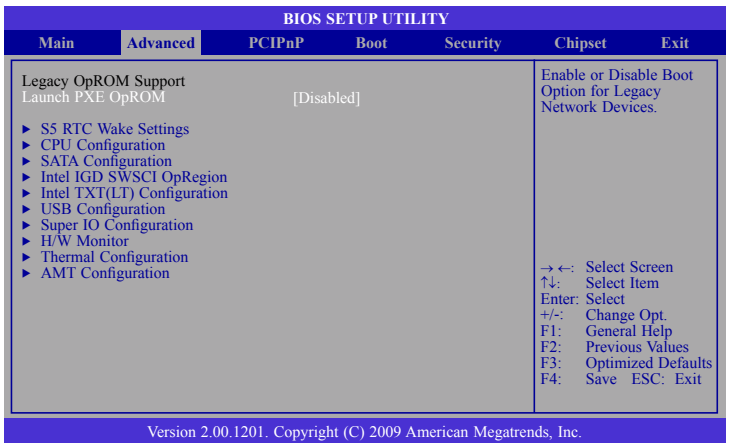
Advanced

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

Setting incorrect field values may cause the system to malfunction.



Launch PXE OpROM
Enables or disables the boot option for legacy network devices.

S5 RTC Wake Settings
Configures the S5 RTC wake up setting.

CPU Configuration
This section is used to configure the CPU. It will also display detected CPU information.

SATA Configuration
This section is used to configure the SATA drives.

Intel IGD SWSCI OpRegion
Configures the Intel graphics display.

Intel TXT(LT) Configuration
Configures the Intel Trusted Execution technology.

USB Configuration
Configures the USB devices.

Super IO Configuration
This section is used to configure the I/O functions supported by the onboard Super I/O chip.

H/W Monitor
This section is used to configure the hardware monitoring events such as temperature, fan speed and voltages.

Thermal Configuration
Configures the intelligent power sharing function.

AMT Configuration
Configures the AMT function.

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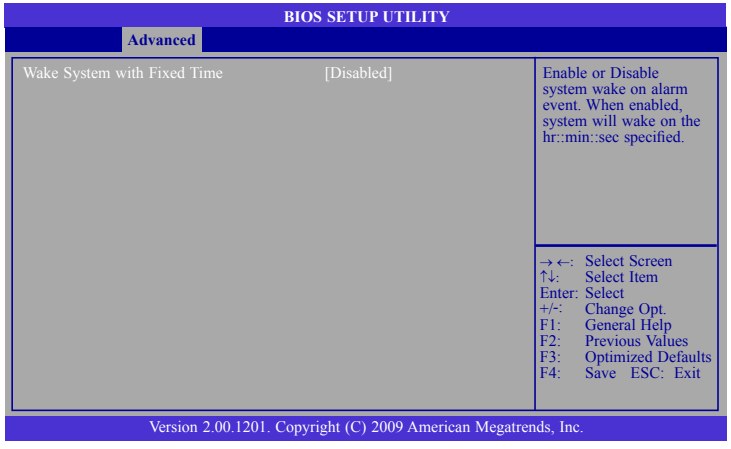
S5 RTC Wake Settings

This section is used to configure the wake up function.

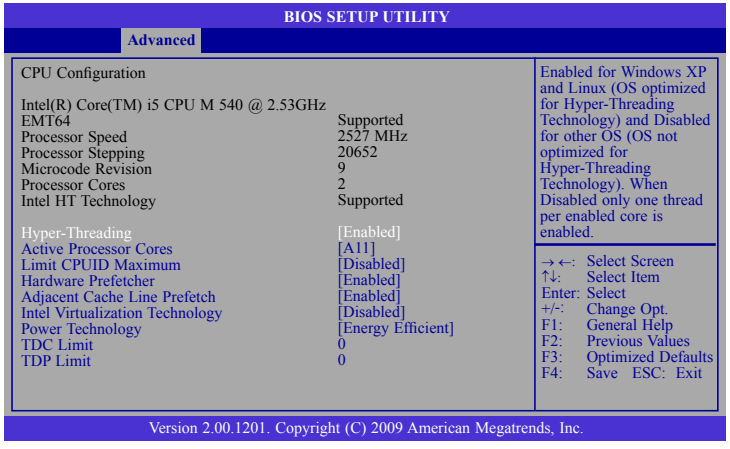

BIOS SETUP UTILITY
Advanced
Wake System with Fixed Time [Disabled]
Enable or Disable system wake on alarm event. When enabled, system will wake on the hr::min::sec specified.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
Version 2.00.1201. Copyright (C) 2009 American Megatrends, Inc.

Wake System with Fixed Time

Enables or disables the system's wake on alarm event. When enabled, the system will wake up on the specified time.

CPU Configuration

This section is used to configure the CPU. It will also display detected CPU information.


BIOS SETUP UTILITY
Advanced
CPU Configuration
Intel(R) Core(TM) i5 CPU M 540 @ 2.53GHz
EMT64 Supported
Processor Speed 2527 MHz
Processor Stepping 20652
Microcode Revision 9
Processor Cores 2
Intel HT Technology Supported
Hyper-Threading [Enabled]
Active Processor Cores [All]
Limit CPUID Maximum [Disabled]
Hardware Prefetcher [Enabled]
Adjacent Cache Line Prefetch [Enabled]
Intel Virtualization Technology [Disabled]
Power Technology [Energy Efficient]
TDC Limit 0
TDP Limit 0
Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
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Hyper-Threading

Enable this field for Windows XP and Linux which are optimized for Hyper-Threading technology. Select disabled for other OSes not optimized for Hyper-Threading technology. When disabled, only one thread per enabled core is enabled.

Active Processor Cores

Used to enter the number of cores to enable in each processor package.

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Limit CPUID Maximum

The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or lesser than 3.

Hardware Prefetcher

Turns on or off the MLC streamer prefetcher.

Adjacent Cache Line Prefetch

Enables or disables the adjacent cache line prefetch.

Intel Virtualization Technology

When this field is set to Enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Power Technology

Configures the power management features.

TDC Limit

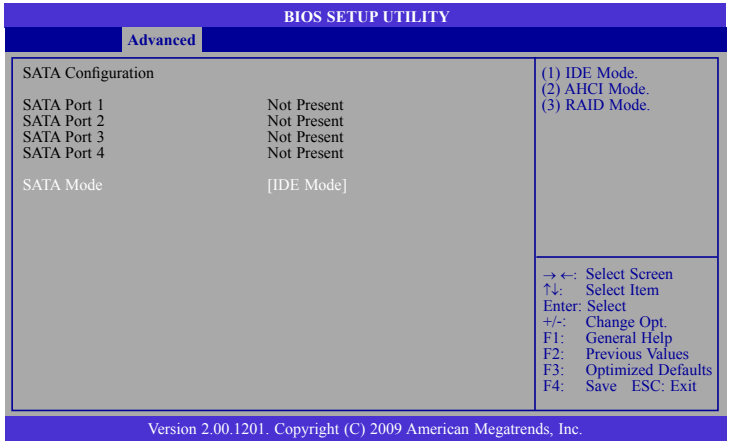
Used to select the TDC limit.

TDP Limit

Used to select the TDP limit.

SATA Configuration

This section is used to configure the SATA drives.



SATA Mode

IDE Mode	This option configures the Serial ATA drives as Parallel ATA storage devices.
AHCI Mode	This option allows the Serial ATA devices to use AHCI (Advanced Host Controller Interface).
RAID Mode	This option allows you to create RAID or Intel Matrix Storage configuration on Serial ATA devices.

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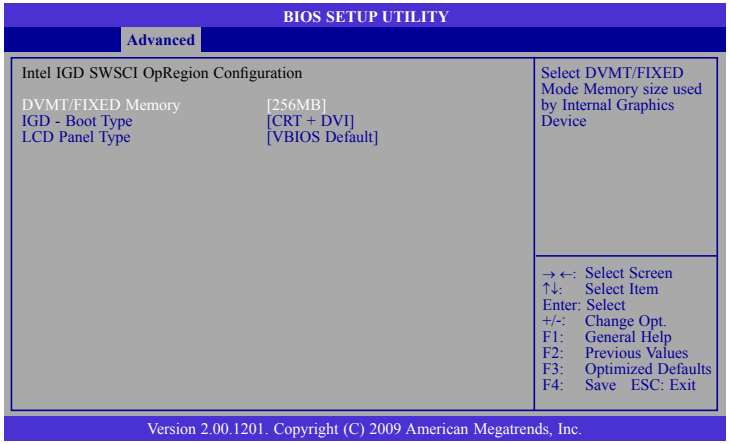
Intel IGD SWSCI OpRegion

This section is used to configure the Intel graphics display.


BIOS SETUP UTILITY
Advanced
Intel IGD SWSCI OpRegion Configuration
DVMT/FIXED Memory [256MB]
IGD - Boot Type [CRT + DVI]
LCD Panel Type [VBIOS Default]
Select DVMT/FIXED Mode Memory size used by Internal Graphics Device
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
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DVMT/FIXED Memory

Selects the DVMT/FIXED mode memory size used by the internal graphics device.

IGD - Boot Type

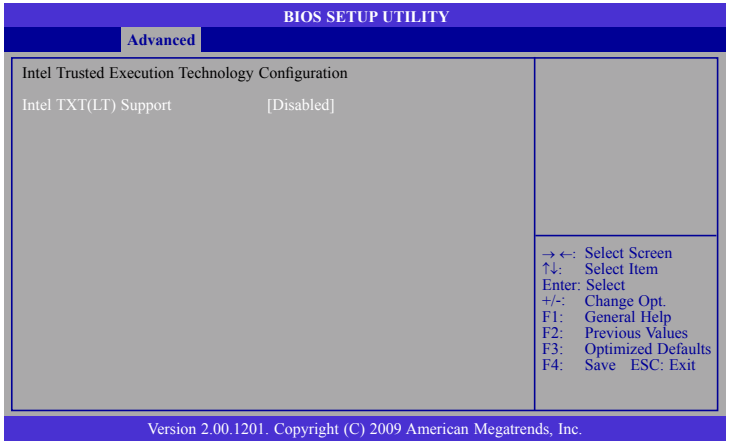
Selects the video device that will be activated during POST. This will not affect any external graphics that may be present.

LCD Panel Type

Selects the LCD panel used by the internal graphics device.

Intel TXT(LT) Configuration

This section is used to configure the Intel Trusted Execution technology.



Intel TXT(LT) Support

The options are Enabled and Disabled.

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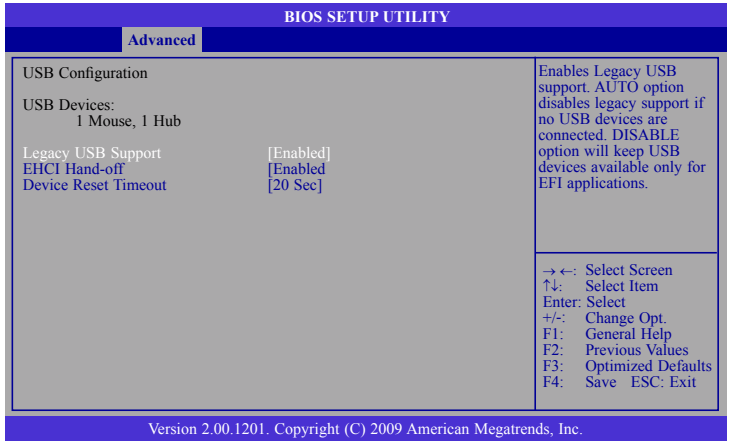
USB Configuration

This section is used to configure USB devices.


BIOS SETUP UTILITY
Advanced
USB Configuration
USB Devices:
1 Mouse, 1 Hub
Legacy USB Support [Enabled]
EHCI Hand-off [Enabled
Device Reset Timeout [20 Sec]
Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
Version 2.00.1201. Copyright (C) 2009 American Megatrends, Inc.

Legacy USB Support

Enabled Enables legacy USB.
Auto Disables support for legacy when no USB devices are connected.
Disabled Keeps USB devices available only for EFI applications.

EHCI Hand-off

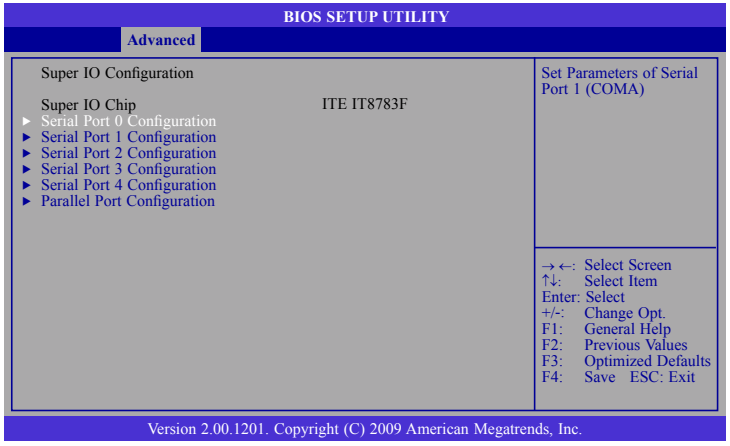
This is a workaround for OSes that does not support EHCI hand-off. The EHCI ownership change should be claimed by the EHCI driver.

Device Reset Timeout

Selects the USB mass storage device start unit command timeout.

Super IO Configuration

This section is used to configure the I/O functions supported by the on-board Super I/O chip.


BIOS SETUP UTILITY
Advanced
Super IO Configuration
Super IO Chip ITE IT8783F
► Serial Port 0 Configuration
► Serial Port 1 Configuration
► Serial Port 2 Configuration
► Serial Port 3 Configuration
► Serial Port 4 Configuration
► Parallel Port Configuration
Set Parameters of Serial Port 1 (COMA)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
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Serial Port 0 Configuration to Serial Port 4 Configuration

Selects the IO/IRQ setting of the I/O devices.

Parallel Port Configuration

Configures the parallel port.

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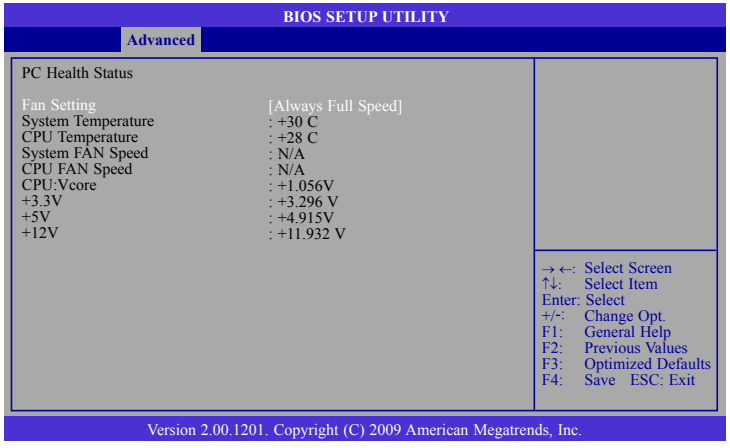
H/W Monitor

This section is used to configure the hardware monitoring events such as temperature, fan speed and voltages.



Fan Setting

Selects the speed of the fan.

System Temperature and CPU Temperature

Detects and displays the internal temperature of the system and the current temperature of the CPU.

System Fan Speed to CPU Fan Speed

Detects and displays the current system fan and CPU fan speed in RPM (Revolutions Per Minute).

CPU:Vcore to +12V

Detects and displays the output voltages.

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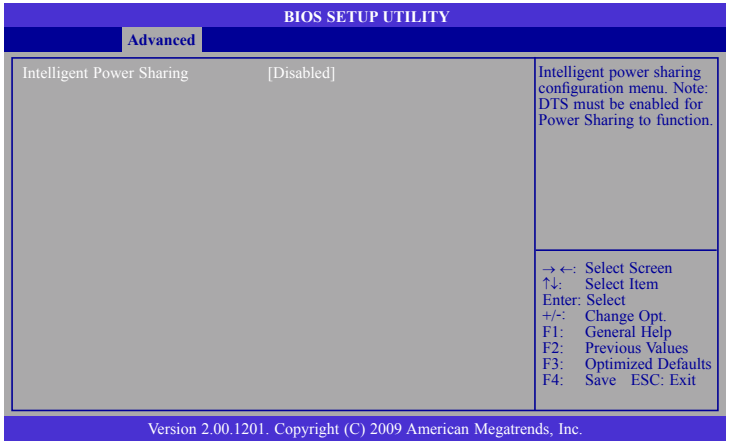
Thermal Configuration

This section is used to configure the intelligent power sharing function.


BIOS SETUP UTILITY
Advanced
Intelligent Power Sharing [Disabled]
Intelligent power sharing configuration menu. Note: DTS must be enabled for Power Sharing to function.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
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Intelligent Power Sharing

Enables or disables the power sharing function.

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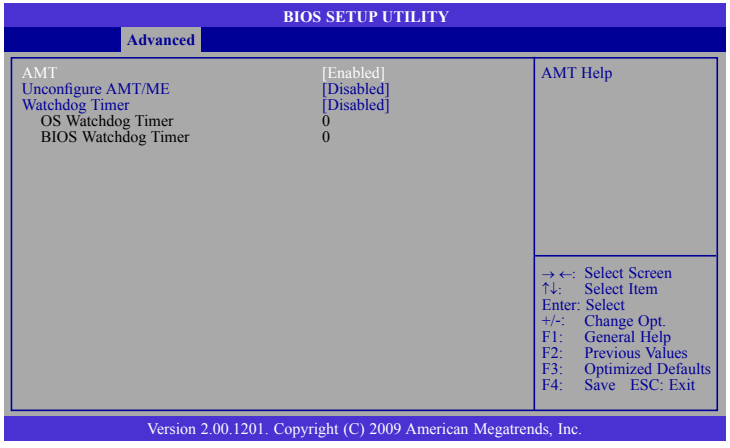
AMT Configuration

This section is used to configure the AMT function.



AMT

Enables or disables the AMT function.

Unconfigure AMT/ME

Select Enabled to unconfigure the AMT/ME function without the need for a password.

Watchdog Timer

Enables or disables the Watchdog Timer function.

OS Watchdog Timer

Selects the time interval of the OS Watchdog Timer.

BIOS Watchdog Timer

Selects the time interval of the BIOS Watchdog Timer.

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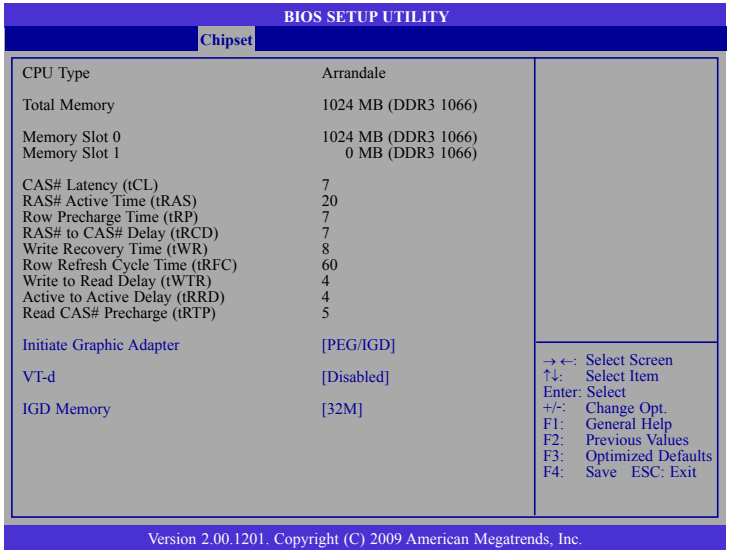
Chipset

This section is used to configure the system based on the specific features of the chipset.

Setting incorrect field values may cause the system to malfunction.

North Bridge



Initiate Graphic Adapter

Selects the graphics controller to use as the primary boot device.

VT-d

The options are Enabled and Disabled.

IGD Memory

Selects the internal graphics device's shared memory size.

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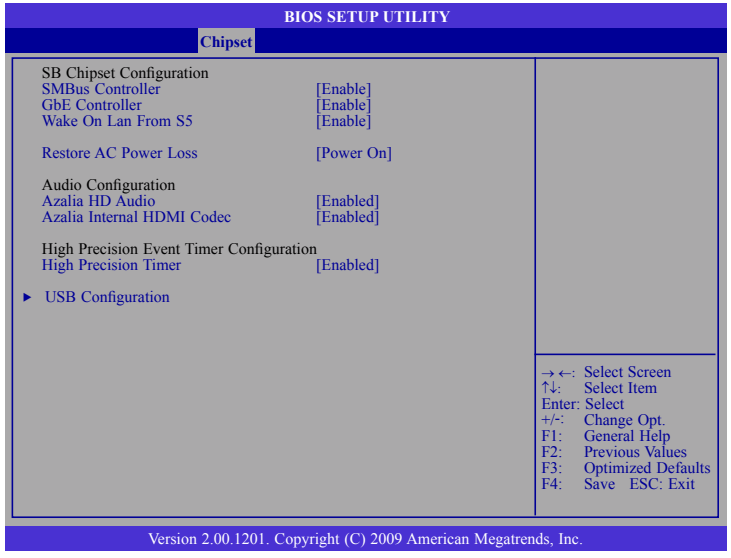
South Bridge



SMBus Controller

Enables or disables the SMBus controller.

GbE Controller

Enables or disables the Gigabit LAN controller.

Wake On Lan From S5

When enabled, it allows the system to wake up from S5 via the network LAN.

Restore AC Power Loss

Off When power returns after an AC power failure, the system's power is off. You must press the Power button to power-on the system.

On When power returns after an AC power failure, the system will automatically power-on.

Azalia HD Audio

Enables or disables the Azalia HD audio.

Azalia Internal HDMI Codec

Enables or disables the Azalia internal HDMI codec.

High Precision Timer

Enables or disables the high precision event timer.

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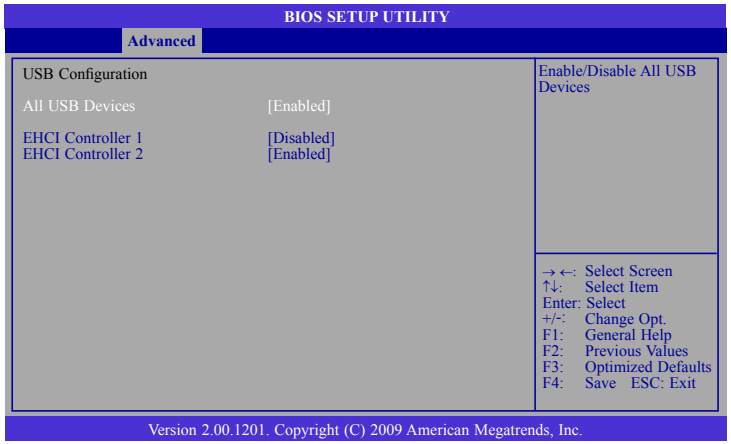
USB Configuration



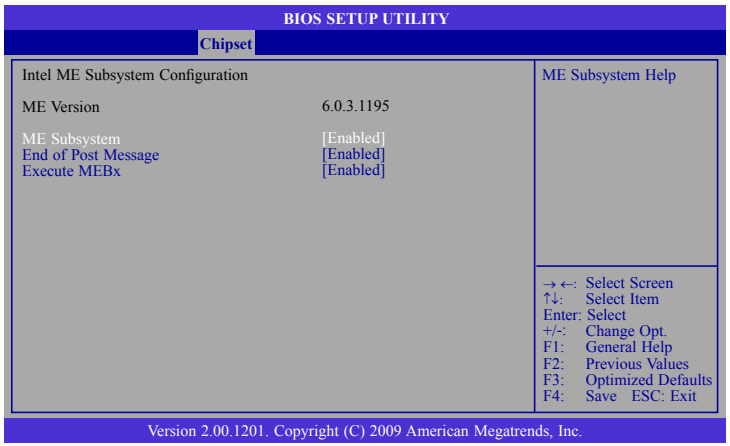
All USB Devices

Enables or disables all USB devices.

EHCI Controller 1 and EHCI Controller 2

Enables or disables the Enhanced Host Controller Interface (USB 2.0).

Intel ME Configuration



ME Subsystem

The options are Enabled and Disabled.

End of the POST Message

The options are Enabled and Disabled.

Execute MEBx

The options are Enabled and Disabled.

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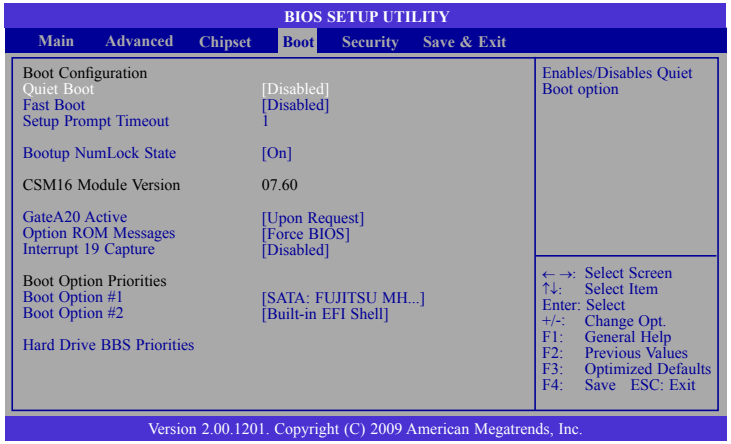
Boot


BIOS SETUP UTILITY
Main Advanced Chipset Boot Security Save & Exit
Boot Configuration
Quiet Boot [Disabled]
Fast Boot [Disabled]
Setup Prompt Timeout 1
Bootup NumLock State [On]
CSM16 Module Version 07.60
GateA20 Active [Upon Request]
Option ROM Messages [Force BIOS]
Interrupt 19 Capture [Disabled]
Boot Option Priorities
Boot Option #1 [SATA: FUJITSU MH...]
Boot Option #2 [Built-in EFI Shell]
Hard Drive BBS Priorities
Enables/Disables Quiet Boot option
←→: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
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Quiet Boot

Enables or disables the quiet boot function.

Fast Boot

Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. This doesn't affect the BBS boot options.

Setup Prompt Timeout

Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

Bootup NumLock State

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

Gate A20 Active

Configures the Gate A20 function.

Option ROM Messages

Configures the ROM messages.

Interrupt 19 Capture

When enabled, it allows the optional ROM to trap interrupt 19.

Boot Option #1 and Boot Option #2

Selects the boot sequence of the hard drives.

Hard Drive BBS Priorities

Sets the order of the legacy devices in this group.

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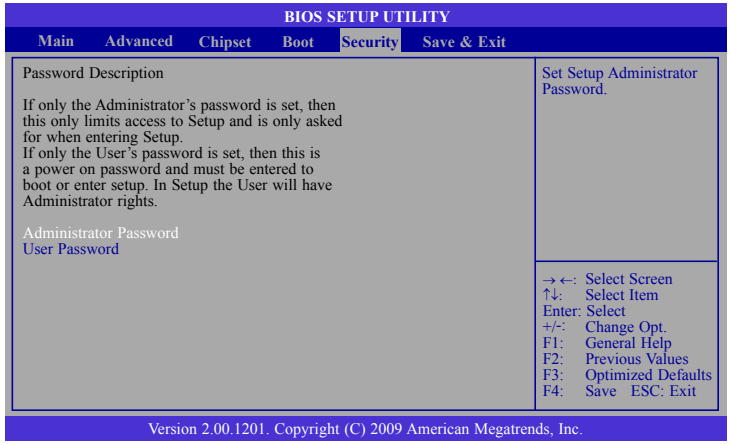
Security


BIOS SETUP UTILITY
Main Advanced Chipset Boot Security Save & Exit
Password Description
If only the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.
If only the User's password is set, then this is a power on password and must be entered to boot or enter setup. In Setup the User will have Administrator rights.
Administrator Password
User Password
Set Setup Administrator Password.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
Version 2.00.1201. Copyright (C) 2009 American Megatrends, Inc.

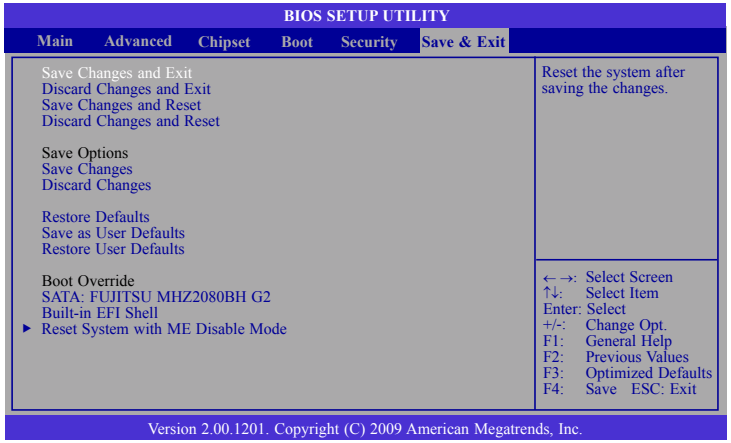
Administrator Password

Sets the administrator password.

User Password

Sets the user password.

Save & Exit



Save Changes and Exit

To save the changes and exit the Setup utility, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes. You can also press <F10> to save and exit Setup.

Discard Changes and Exit

To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting. You can also press <ESC> to exit without saving the changes.

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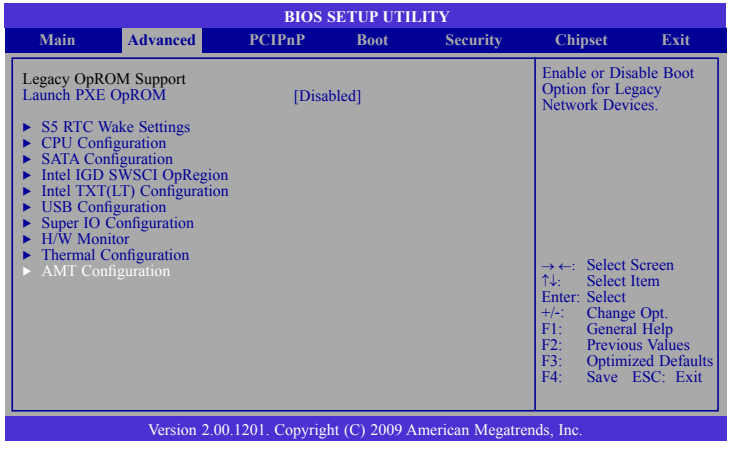
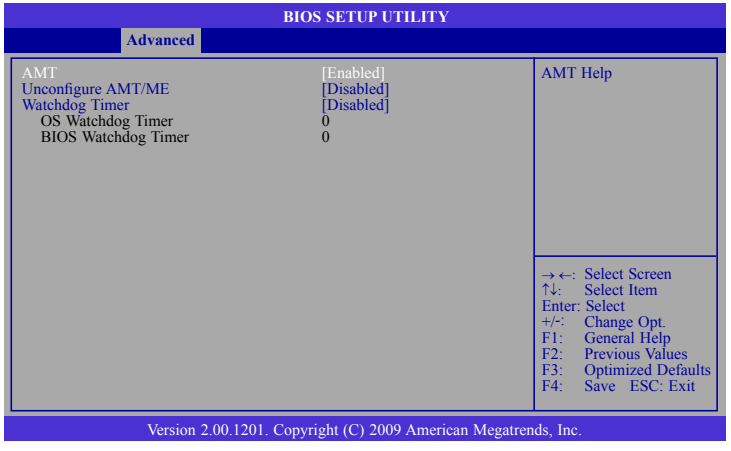
Chapter 5: AMT Settings

Enable Intel® AMT in the AMI BIOS

1. In the Advanced menu, select **AMT Configuration**.



2. In the **AMT** field, select Enabled.



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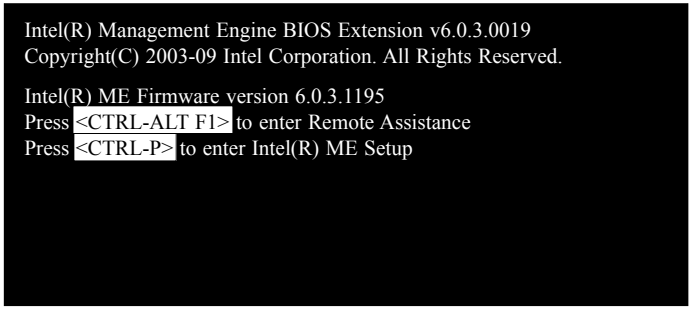
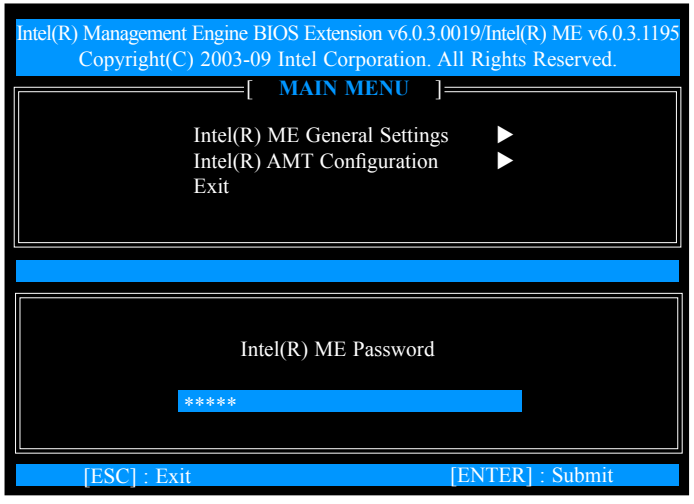
Configure the Intel® ME Setup

1. When the system reboots, the following message will be displayed. Press **<Ctrl-P>** as soon as the message is displayed; as this message will be displayed for only a few seconds.


Intel(R) Management Engine BIOS Extension v6.0.3.0019
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
Intel(R) ME Firmware version 6.0.3.1195
Press <CTRL-ALT F1> to enter Remote Assistance
Press <CTRL-P> to enter Intel(R) ME Setup

2. You will be prompted for a password. The default password is "admin". Enter the default password in the space provided under Intel(R) ME Password and then press Enter.



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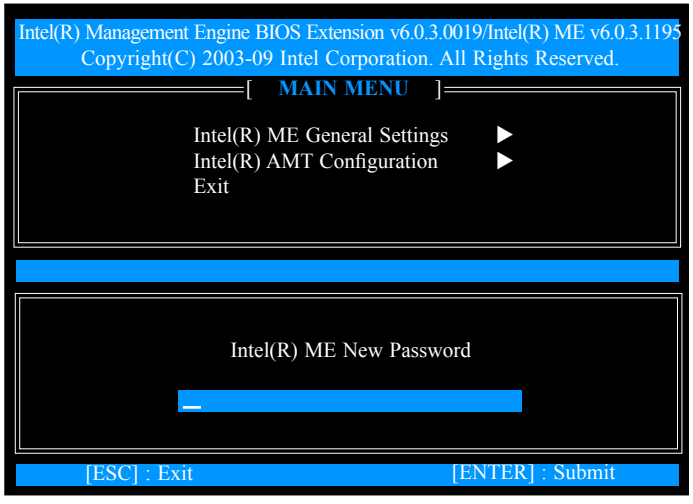
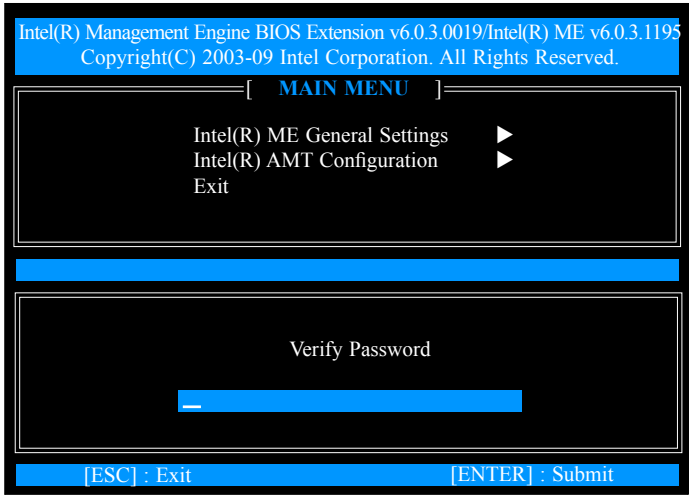
3. Enter a new password in the space provided under Intel(R) ME New Password and then press Enter. The new password must be based on the following rules to create a strong password security.

   - Password length - at least 8 characters and not longer than 32.
   - Password complexity - the password must include the following.
     - At least one digit character (0, 1, ...9)
     - At least one 7-bit ASCII non alpha-numeric character (e.g. !, $, ;) but excluding : , and " characters
     - At least one lowercase letter ('a', 'b'...'z') and at least one uppercase letter ('A', 'B'...'Z')


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[MAIN MENU]
Intel(R) ME General Settings
Intel(R) AMT Configuration
Exit
Intel(R) ME New Password
[ESC] : Exit
[ENTER] : Submit

4. You will be asked to verify the password. Enter the same new password in the space provided under Verify Password and then press Enter.



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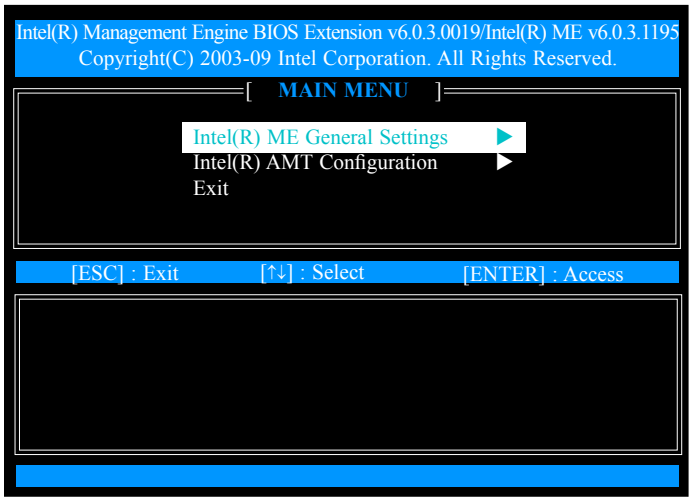
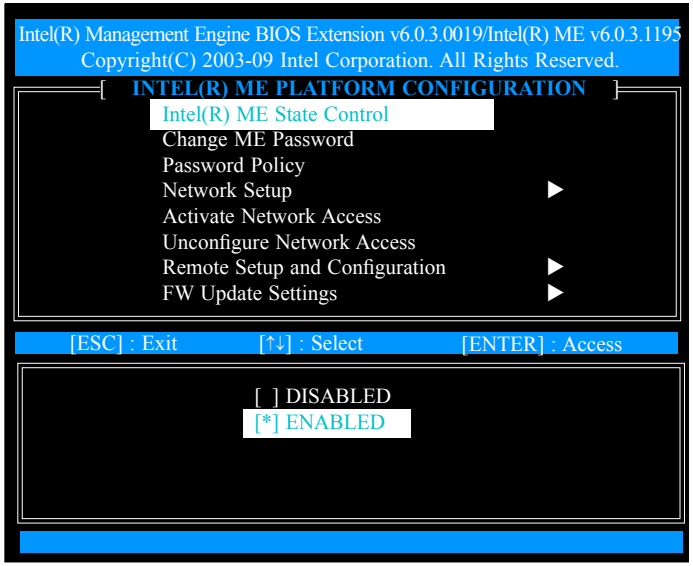
5. Select **Intel(R) ME General Settings** and then press Enter.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[MAIN MENU]
Intel(R) ME General Settings
Intel(R) AMT Configuration
Exit
[ESC] : Exit
[↑↓] : Select
[ENTER] : Access

6. Select **Intel(R) ME State Control** and then press Enter.

   Select **Enabled** and then press Enter.



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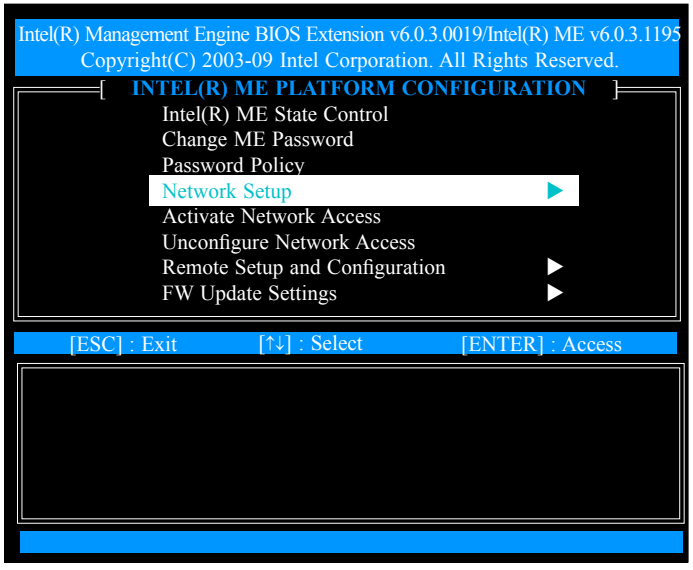
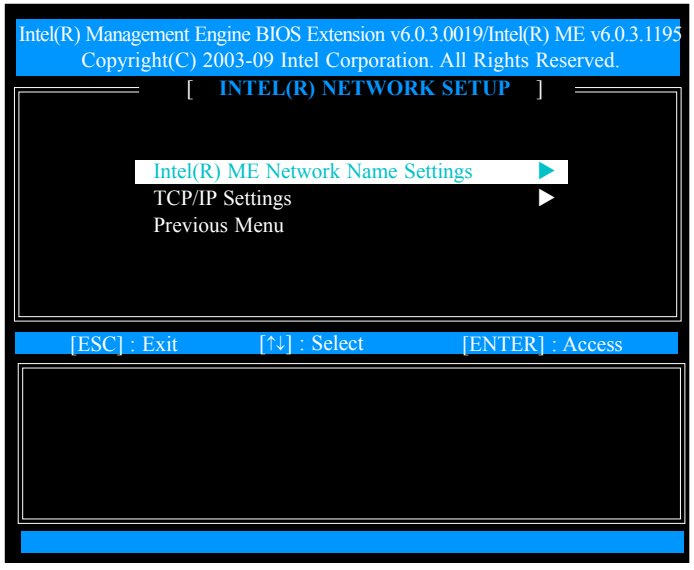
7. Select **Network Setup** and then press Enter.



8. In the Intel(R) Network Setup menu, select **Intel(R) ME Network Name Settings** then press Enter.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[INTEL(R) NETWORK SETUP]
Intel(R) ME Network Name Settings
TCP/IP Settings
Previous Menu
[ESC] : Exit
[↑↓] : Select
[ENTER] : Access

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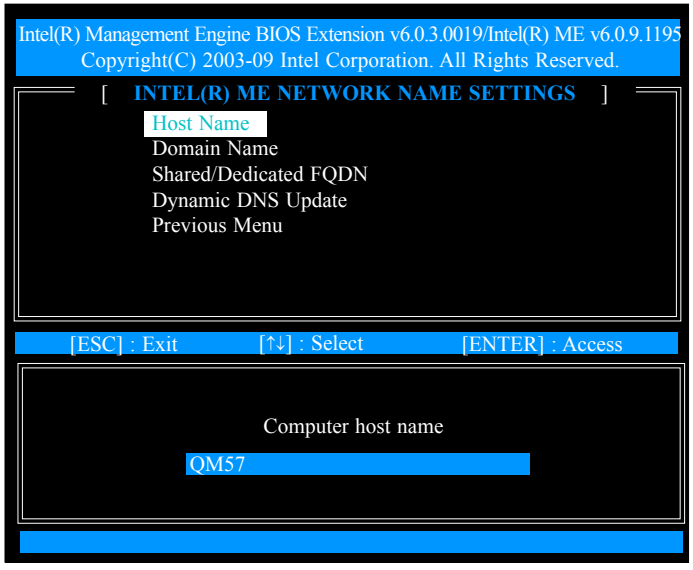
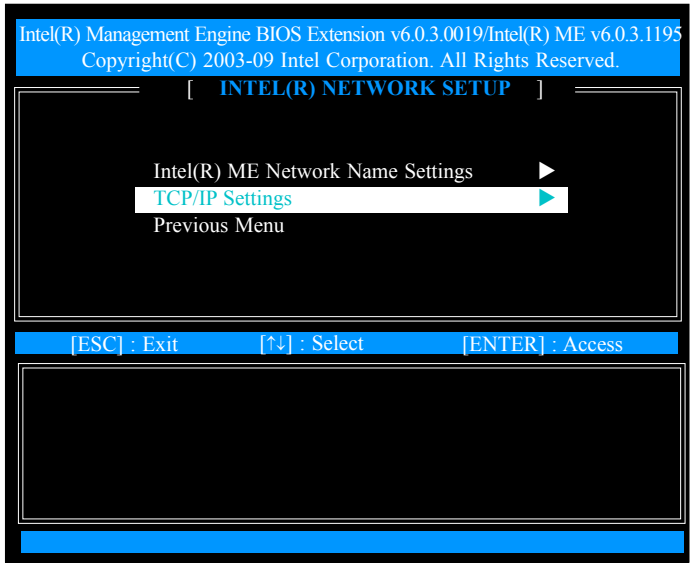
9. In the Intel(R) ME Network Name Settings menu, select **Host Name** and then press Enter.

   Enter the computer's host name (for example: QM57) and then press Enter.

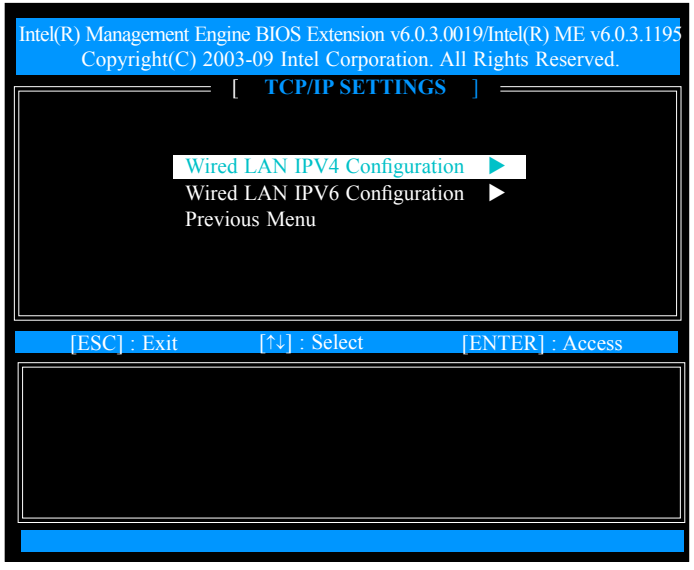
   Select **Previous Menu** and then press Enter.



10. In the Network Setup menu, select **TCP/IP Settings** and then press Enter.

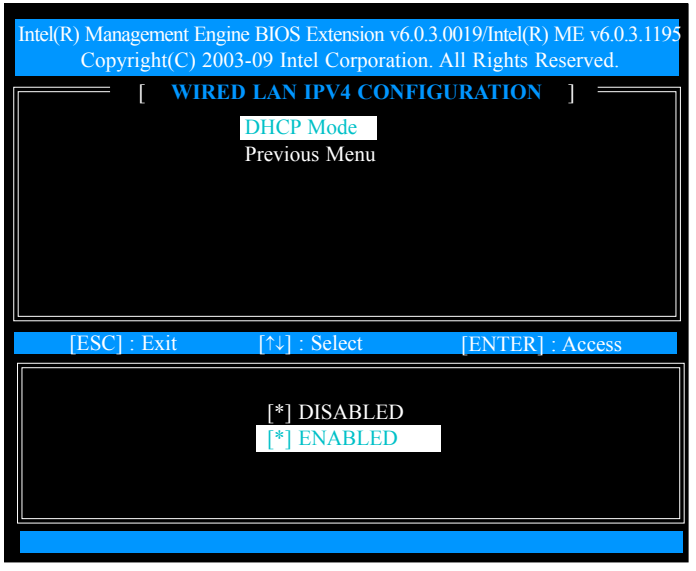

Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[INTEL(R) NETWORK SETUP]
Intel(R) ME Network Name Settings
TCP/IP Settings
Previous Menu
[ESC] : Exit
[↑↓] : Select
[ENTER] : Access

11. In the TCP/IP Settings menu, select **Wired LAN IPV4 Configuration** and then press Enter.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[TCP/IP SETTINGS]
Wired LAN IPV4 Configuration ▶
Wired LAN IPV6 Configuration ▶
Previous Menu
[ESC] : Exit
[↑↓] : Select
[ENTER] : Access

12. Select **DHCP Mode** and then press Enter.

    Select **Enabled** or **Disabled** and then press Enter.



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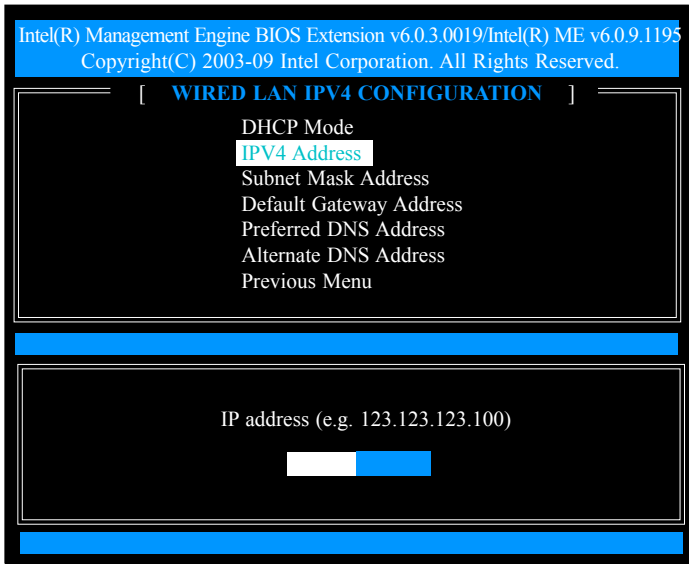
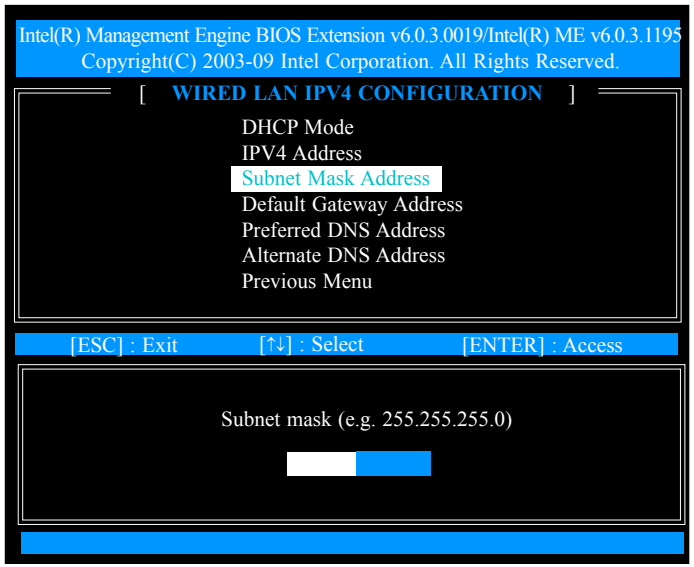
13. A list of options in the Wired LAN IPV4 Configuration menu will appear.

    Select **IPV4 Address** and then press Enter. Enter an **IP Address** then press Enter.



14. Select **Subnet Mask Address** and then press Enter.

    Enter the **subnet mask address** and then press Enter.



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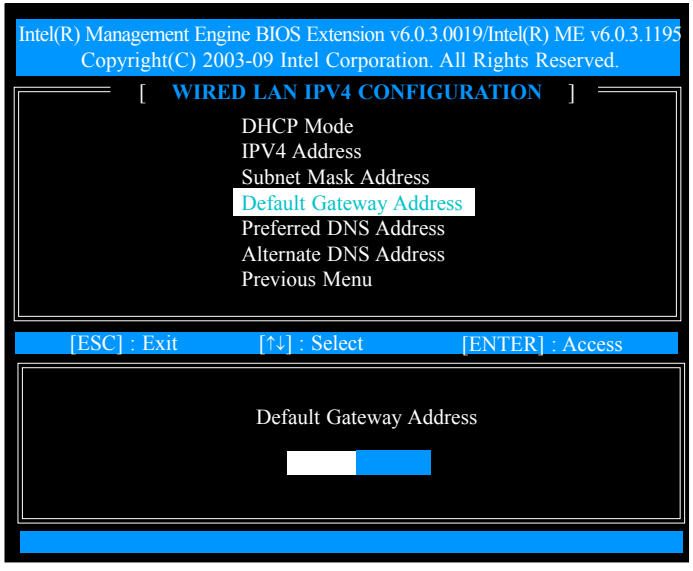
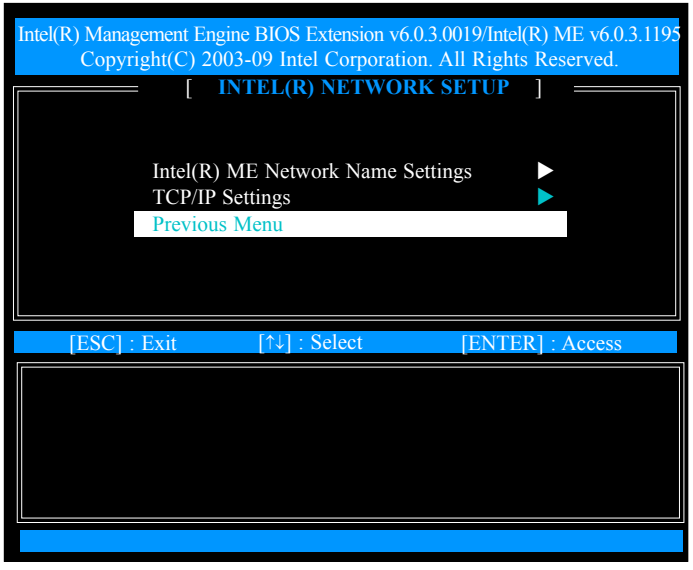
15. Select **Default Gateway Address** and then press Enter.

    Enter the **default gateway address** and then press Enter.

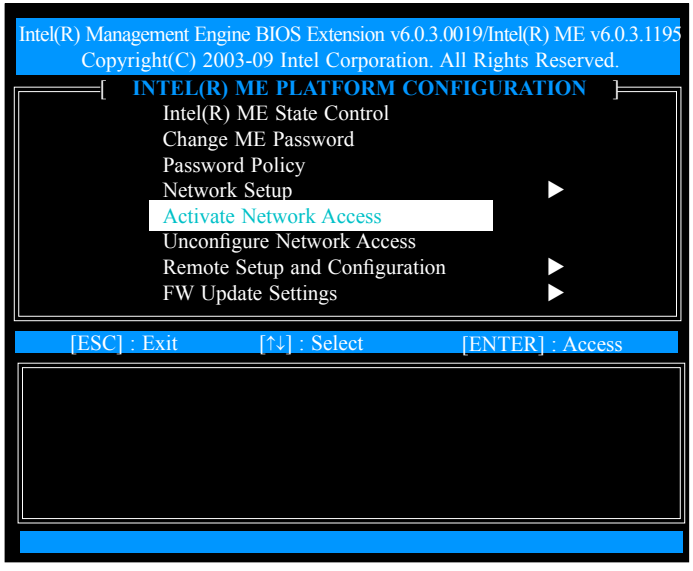


16. Select **Previous Menu** and then press Enter.

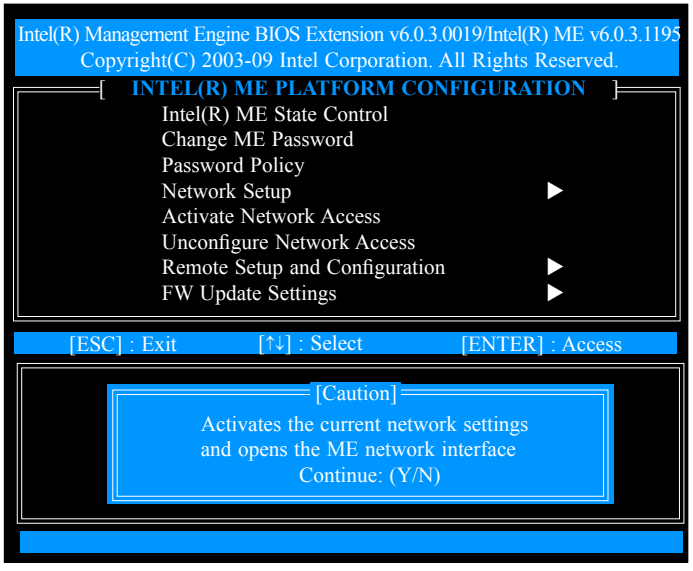

Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[INTEL(R) NETWORK SETUP]
Intel(R) ME Network Name Settings
TCP/IP Settings
Previous Menu
[ESC] : Exit
[↑↓] : Select
[ENTER] : Access

17. Select Previous Menu until you return to the **Intel(R) ME Platform Configuration** menu.

    Select **Activate Network Access** and then press Enter.



18. Type **Y** and then press Enter.



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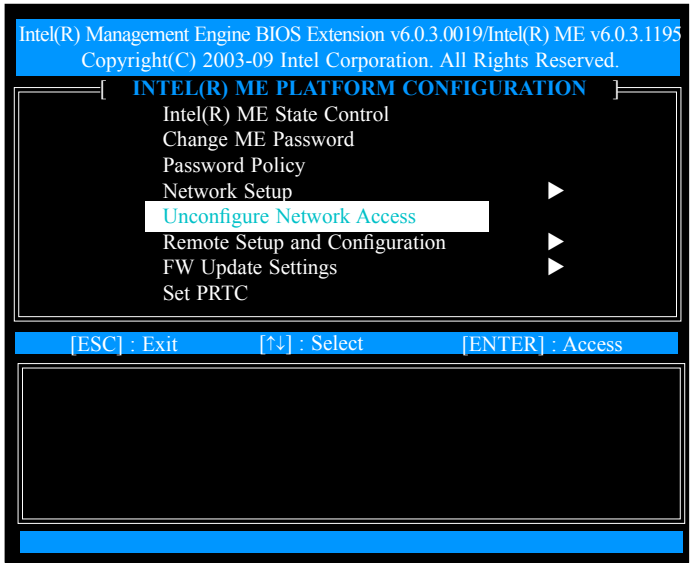
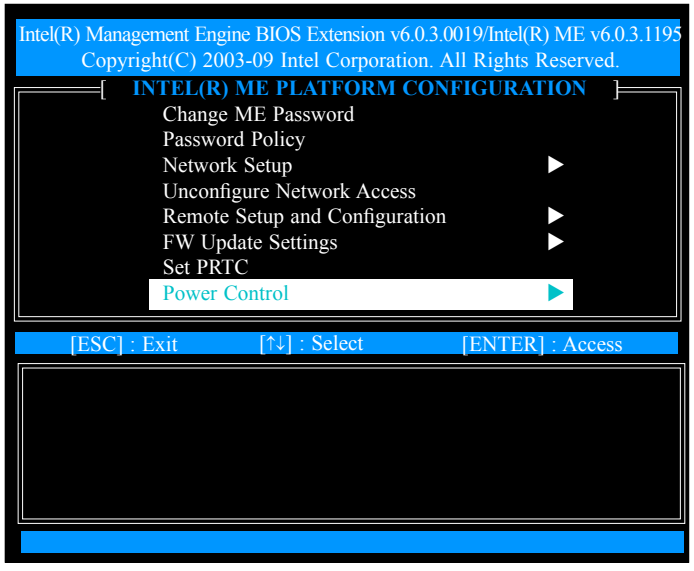
19. In the Intel(R) ME Platform Configuration menu, select **Unconfigure Network Access** and then press Enter. Clear all network settings.



20. In the Intel(R) ME Platform Configuration menu, select **Power Control** and then press Enter.



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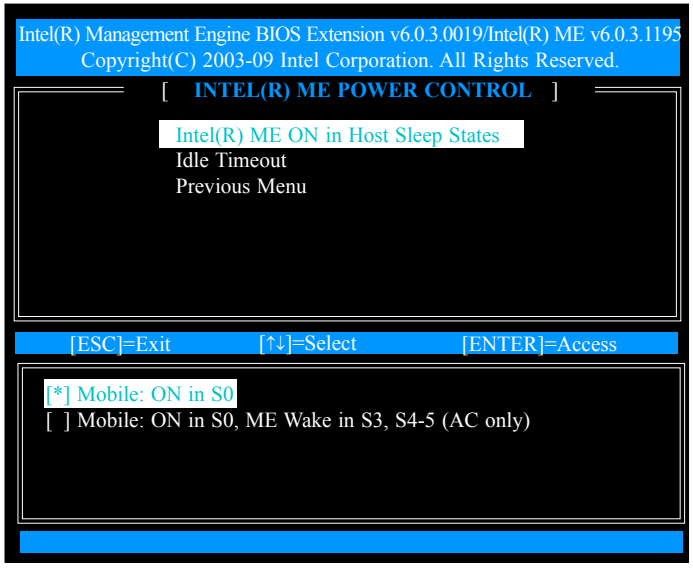
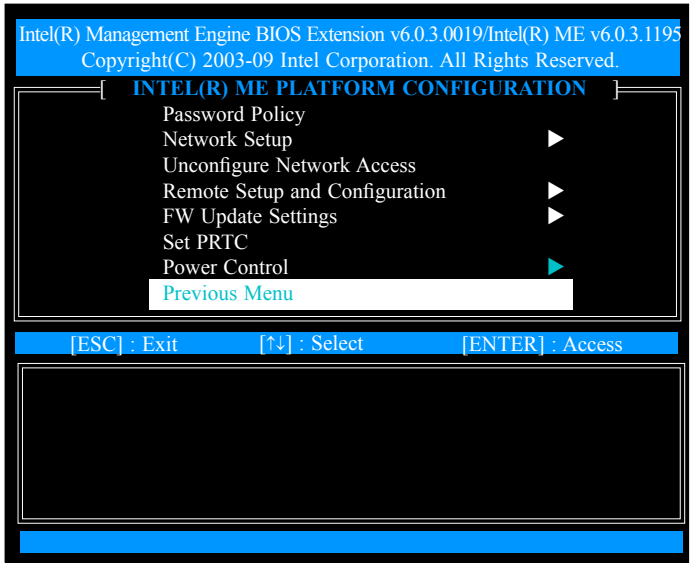
21. In the Intel(R) ME Power Control menu, select **Intel(R) ME ON in Host Sleep States** and then press Enter.

    Select **Mobile: ON in S0** and then press Enter.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[INTEL(R) ME POWER CONTROL]
Intel(R) ME ON in Host Sleep States
Idle Timeout
Previous Menu
[ESC]=Exit
[↑↓]=Select
[ENTER]=Access
[*] Mobile: ON in S0
[ ] Mobile: ON in S0, ME Wake in S3, S4-5 (AC only)

22. Select **Previous Menu** and then press Enter.



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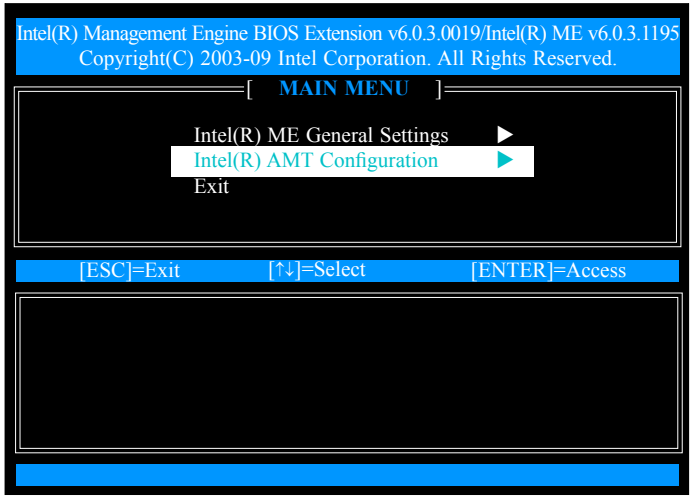
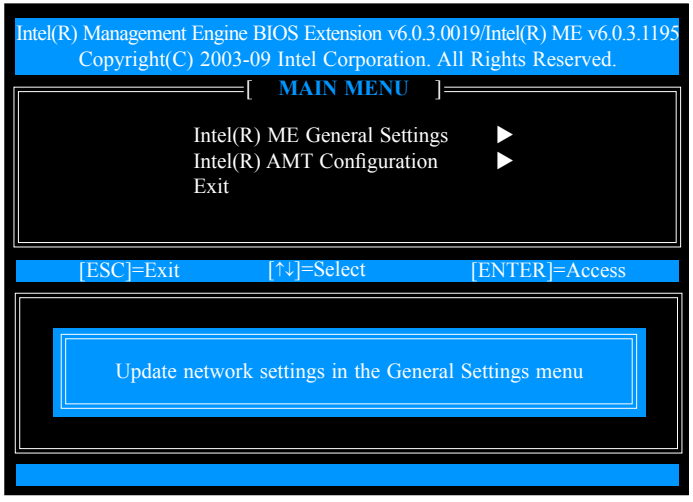
23. Select Previous Menu until you return to the Main Menu. Select **Intel(R) AMT Configuration**.



24. The message below will appear.



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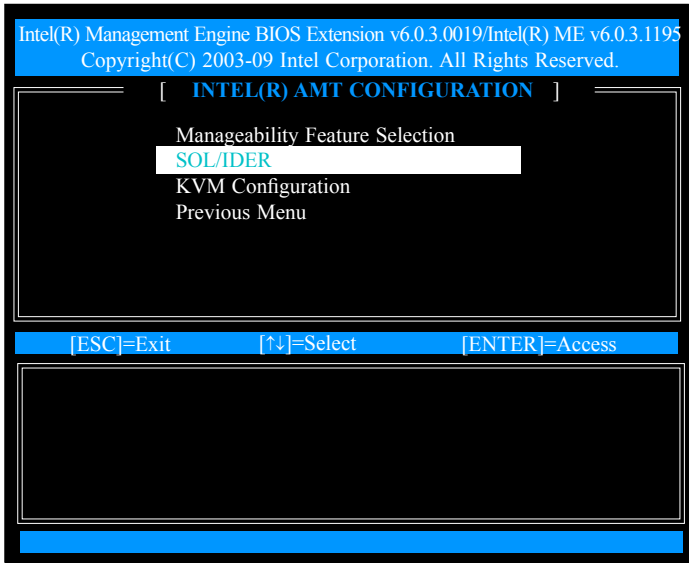
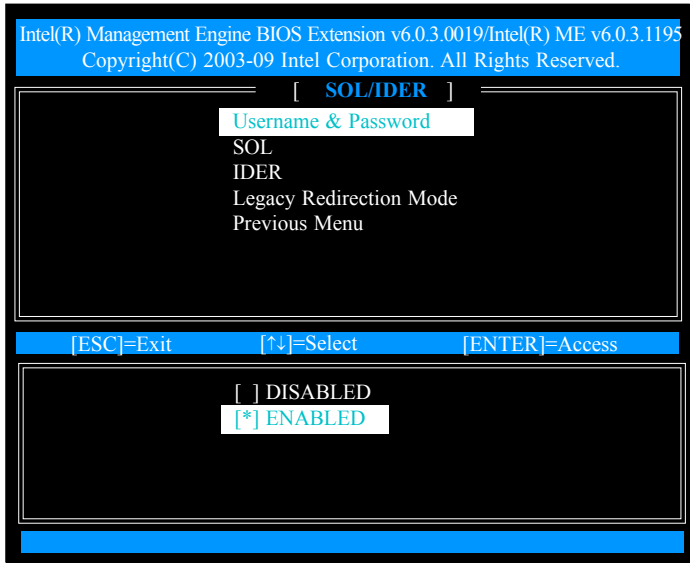
25. In the Intel(R) AMT Configuration menu, select **SOL/IDER** and then press Enter.



26. In the SOL/IDER menu, select **Username & Password** and then press Enter.

    Select **Enabled** and then press Enter.



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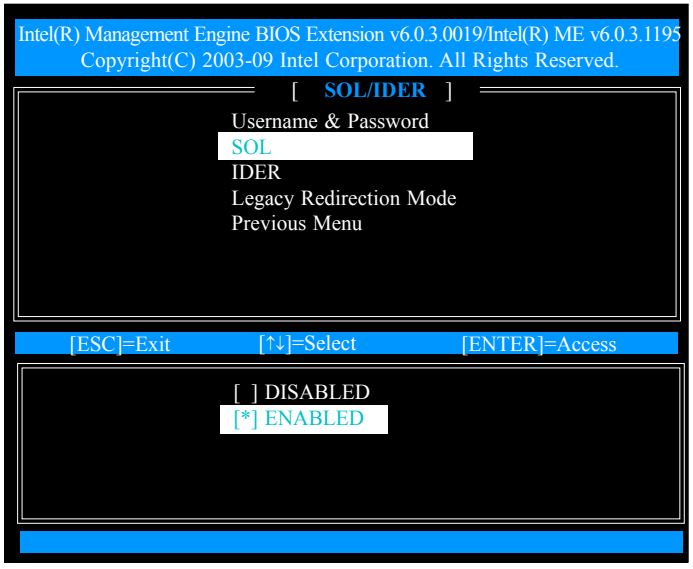
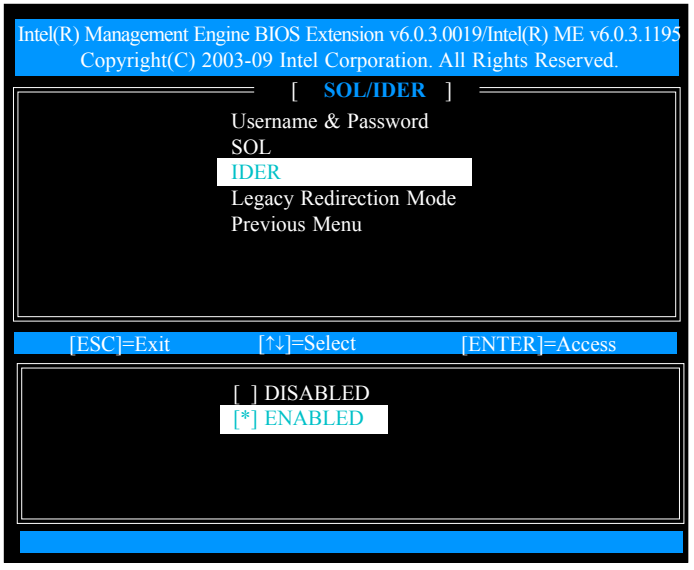
27. In the SOL/IDER menu, select **SOL** and then press Enter.

    Select **Enabled** and then press Enter.



28. In the SOL/IDER menu, select **IDER** and then press Enter.

    Select **Enabled** and then press Enter.



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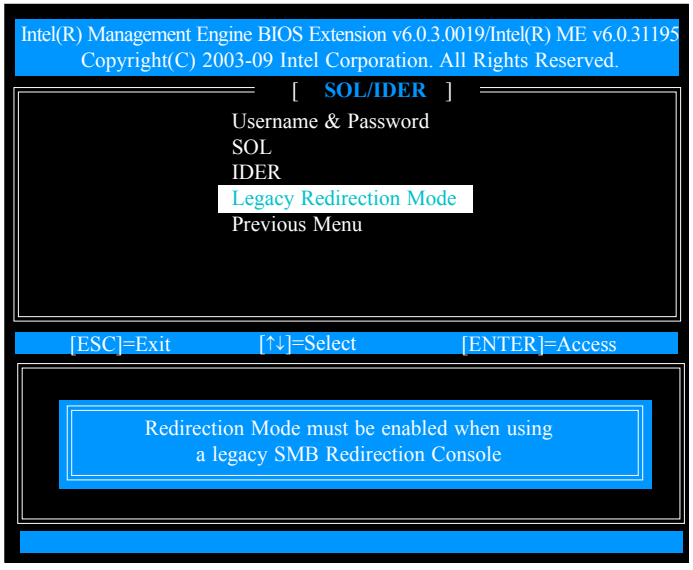
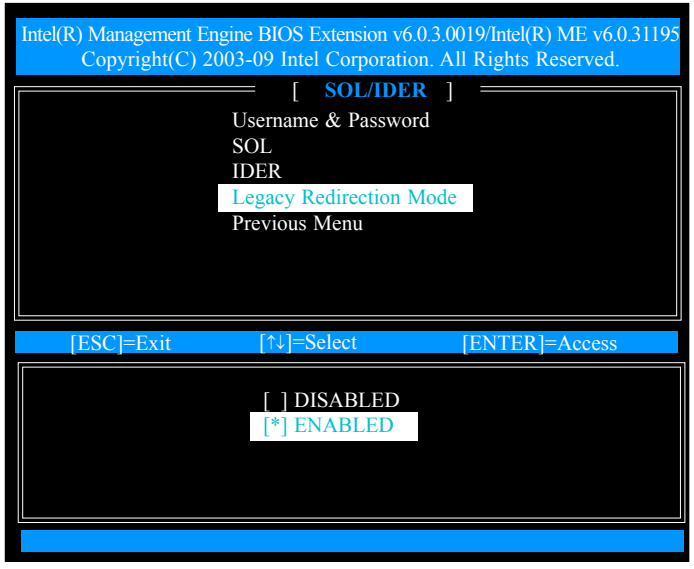
29. In the SOL/IDER menu, select **Legacy Redirection Mode** and then press Enter.

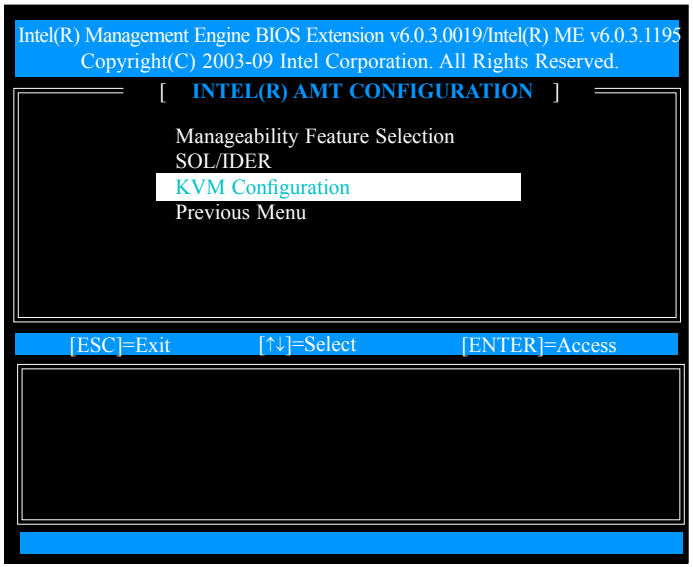


30. Select **Enabled** and then press Enter.



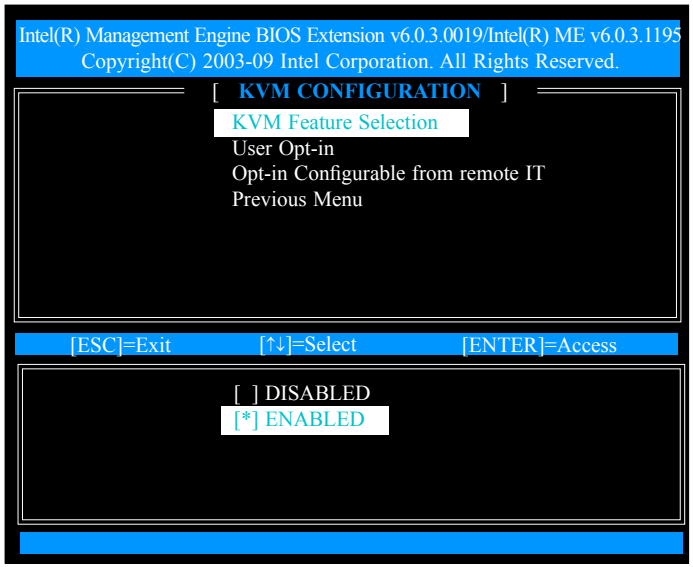
31. Select Previous Menu until you return to the **Intel(R) AMT Configuration** menu.

    Select **KVM Configuration** and then press Enter.



32. In the KVM Configuration menu, select **KVM Feature Selection** and then press Enter.

    Select **Enabled** and then press Enter.



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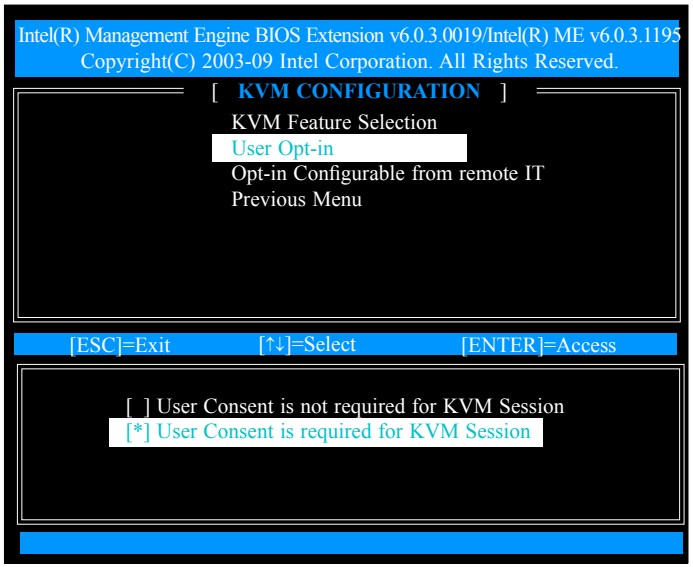
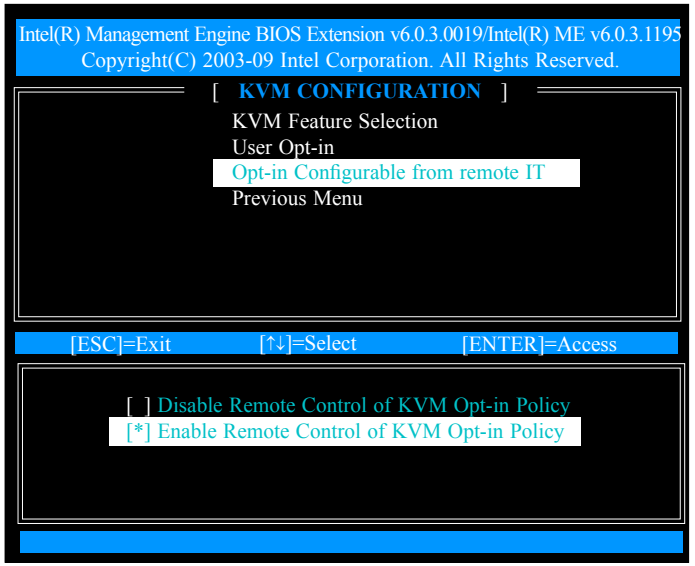
33. In the KVM Configuration menu, select **User Opt-in** and then press Enter.

    Select **User Consent is required for KVM Session** and then press Enter.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[KVM CONFIGURATION]
KVM Feature Selection
User Opt-in
Opt-in Configurable from remote IT
Previous Menu
[ESC]=Exit
[↑↓]=Select
[ENTER]=Access
[ ] User Consent is not required for KVM Session
[*] User Consent is required for KVM Session

34. In the KVM Configuration menu, select **Opt-in Configurable from Remote IT** and then press Enter.

    Select **Enable Remote Control of KVM Opt-in Policy** and then press Enter.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[KVM CONFIGURATION]
KVM Feature Selection
User Opt-in
Opt-in Configurable from remote IT
Previous Menu
[ESC]=Exit
[↑↓]=Select
[ENTER]=Access
[ ] Disable Remote Control of KVM Opt-in Policy
[*] Enable Remote Control of KVM Opt-in Policy

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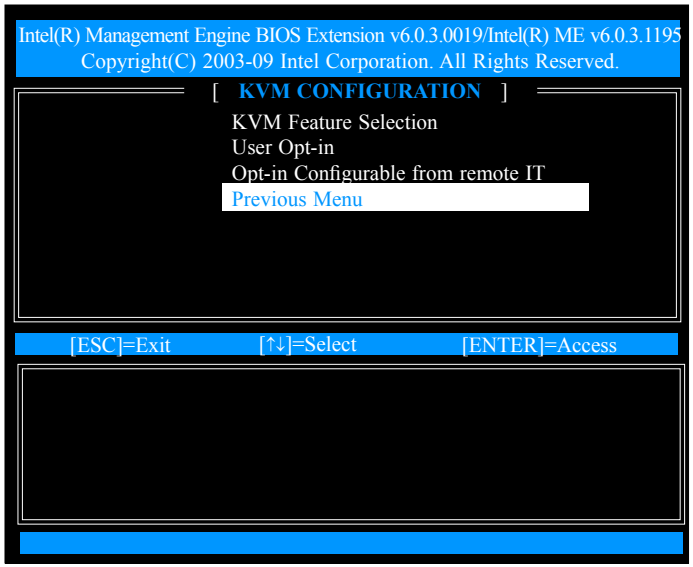
35. Select **Previous Menu**.

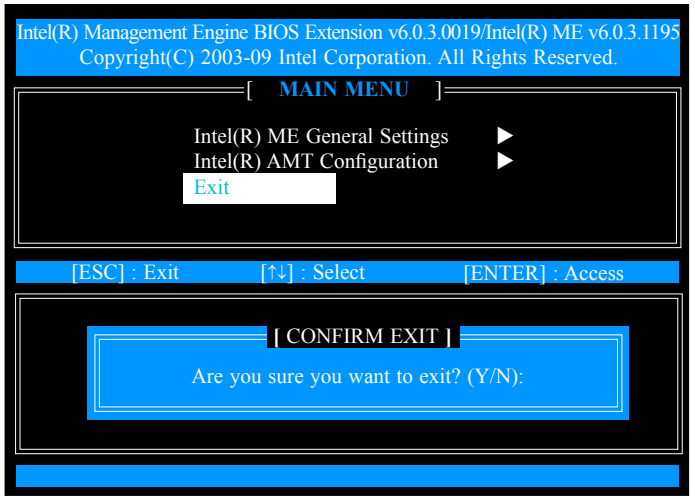


36. Select Previous Menu until you return to the Main Menu. Select **Exit** and then press Enter.

    The following message will be displayed on the screen.

    [CONFIRM EXIT]
    Are you sure you want to exit? (Y/N):

    Press Y.


Intel(R) Management Engine BIOS Extension v6.0.3.0019/Intel(R) ME v6.0.3.1195
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
[MAIN MENU]
Intel(R) ME General Settings
Intel(R) AMT Configuration
Exit
[ESC] : Exit
[↑↓] : Select
[ENTER] : Access
[CONFIRM EXIT]
Are you sure you want to exit? (Y/N):

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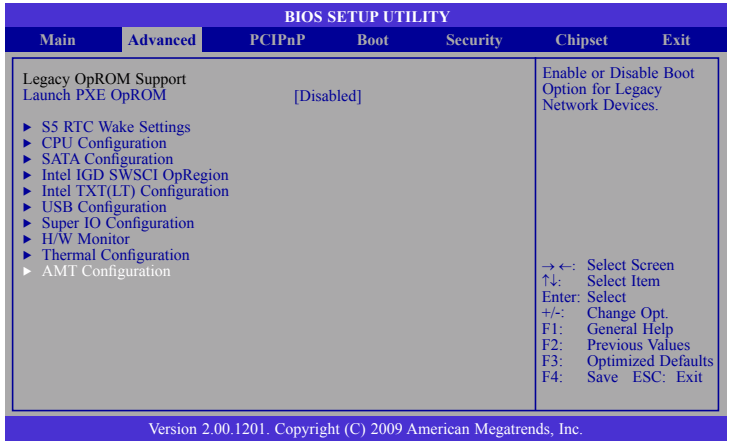
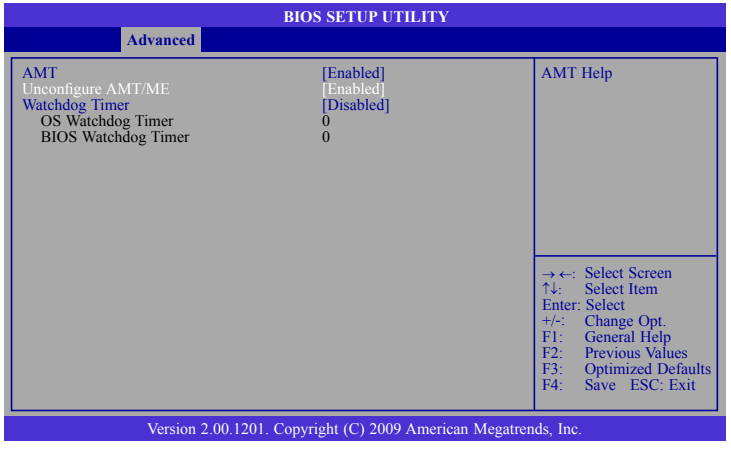
Unconfigure AMT/ME

1. In the Advanced menu, select **AMT Configuration**.



2. In the **Unconfigure AMT/ME** field, select Enabled. Clear all ME settings.



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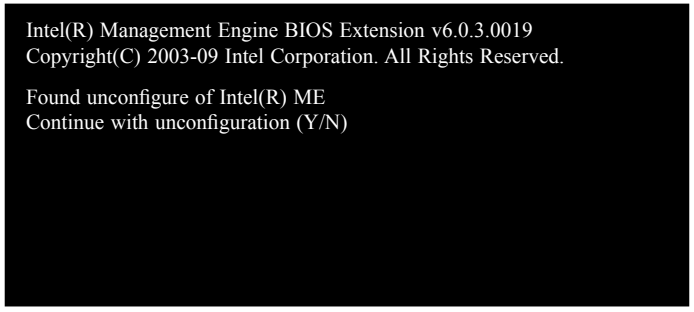
3. The message below will appear. Type **Y**.


Intel(R) Management Engine BIOS Extension v6.0.3.0019
Copyright(C) 2003-09 Intel Corporation. All Rights Reserved.
Found unconfigure of Intel(R) ME
Continue with unconfiguration (Y/N)

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Appendix A: Power Consumption

Test Configuration

System Configuration	Sys#1	Sys#2	Sys#3
Chassis	CHASSIS NViS 3540 Ver. A	CHASSIS NViS 3540 Ver. A	CHASSIS NViS 3540 Ver. A
CPU	Intel® Core™ i7-620M Processor (4M Cache, 2.66 GHz) 35W	Intel CPU Celeron Processor P4500 (2M Cache, 1.86 GHz)	Intel® Core™ i5-520M Processor (3M Cache, 2.4 GHz) 35W
Memory	Transcend DDR3 1066 2Gx2	Transcend DDR3 1066 2Gx2	Transcend DDR3 1066 2Gx2
HDD	Hitachi HTS23225L9A360 250GB	Hitachi HTS23225L9A360 250GB	Hitachi HTS23225L9A360 250GB
FDD	N/A	N/A	N/A
CD-ROM	N/A	N/A	N/A
Compact Flash device	N/A	N/A	N/A
Power Supply	POWER ADAPTER SPI:G.P FSP120-AAB(N091)	POWER ADAPTER SPI:G.P FSP120-AAB(N091)	POWER ADAPTER SPI:G.P FSP120-AAB(N091)
Add-on Card	D-LINK LAN Card	D-LINK LAN Card	D-LINK LAN Card
CPU Cooler	NViS 3540 HEATSINK	NViS 3540 HEATSINK	NViS 3540 HEATSINK
System Fan	N/A	N/A	N/A
Keyboard	LEMEL B-5201-P	LEMEL B-5201-P	LEMEL B-5201-P
Mouse	GENIVS EASY MOUSE PS/2	GENIVS EASY MOUSE PS/2	GENIVS EASY MOUSE PS/2

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Power Consumption Measurement

Purpose

The purpose of the power consumption test is to verify the power dissipation of the system and the load of the power supply.

Test Equipment

PROVA CM-07 AC/DC CLAMP METER

Device Under Test

DUT: Sys #1 / Sys #2

Test Procedure

1. Power up the DUT and then boot Windows XP.
2. Enter the standby mode (HDD power down).
3. Measure the power consumption and record it.
4. Run the Burn-in test program to apply 100% full loading.
5. Run the Intel Kpower program.
5. Run the LAN Packet Counter and Receive program.

Test Data

	Sys #1	Sys #2
	+19V	+19V
Full-Loading Mode	2.97A	2.43A
Total	56.43W	46.17W
Standby Mode	1.025A	0.99A
Total	19.475W	18.81W

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Appendix B: GPI/O Programming guide

NISB3500 GPIO

PIN	Description	PIN	Description
1	+5V	2	GND
3	GPO24	4	GPI20
5	GPO25	6	GPI21
7	GPO26	8	GPI22
9	GPO27	10	GPI23

IO base address : 800h

Bit0 : GPI20
Bit1 : GP I21
Bit2 : GP I22
Bit3 : GP I23
Bit4 : GPO24
Bit5 : GPO25
Bit6 : GPO26
Bit7 : GPO27

1. Read/Write GPIO data by I/O port 801h

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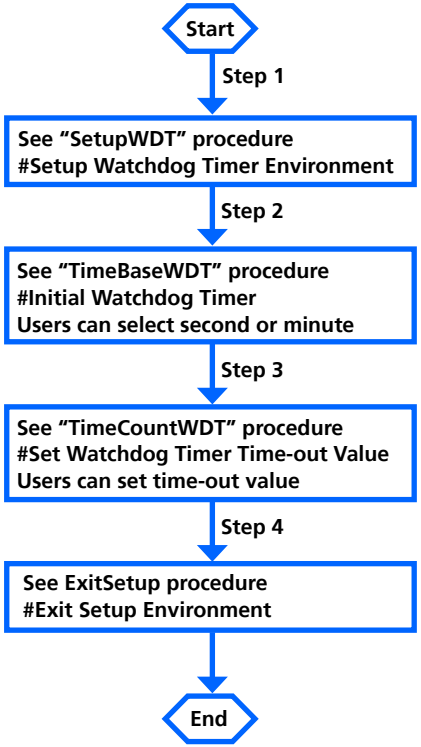
Appendix C: Watchdog Timer Setting



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c:\>debug [enter]
-o 2e 87 ;Enter the Extended Function Mode
-o 2e 01
-o 2e 55
-o 2e 55
-o 2e 07 ;Logical Device Number Reg
-o 2f 07 ;LDN=7
-o 2e 72 ;Watch dog configuration
-o 2f XX ;minute mode or second mode
-o 2e 73 ;LSB for Watch dog tme out value
-o 2f YY
-o 2e 74 ;MSB for Watch dog tme out value
-o 2f ZZ

XX: 90 : Second mode
10 : minute mode
ex:
10 second timeout:
xx=90
yy=0a
zz=00

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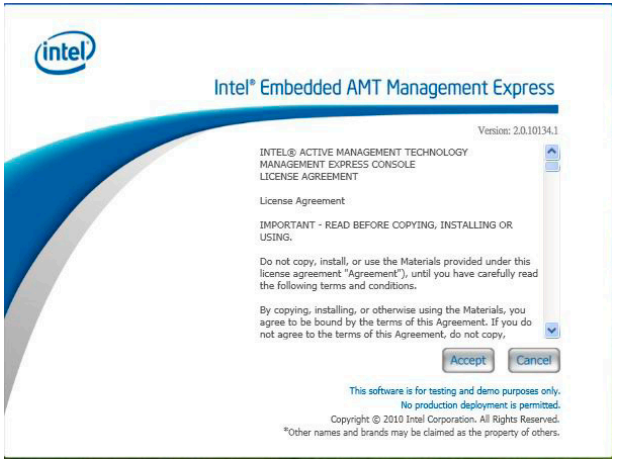
Appendix D: Intel Embedded AMT Management Express KVM

1. After installing the Intel Embedded AMT Management Express utility, the **Intel Embedded AMT Management Express** icon will appear on your desktop.

2. Double-click the icon to run Intel Embedded AMT Management Express.

3. When the Intel Embedded AMT Management Express dialog box appears, click **Accept**.


intel
Intel® Embedded AMT Management Express
Version: 2.0.10134.1
INTEL® ACTIVE MANAGEMENT TECHNOLOGY
MANAGEMENT EXPRESS CONSOLE
LICENSE AGREEMENT
License Agreement
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not copy, install, or use the Materials provided under this license agreement "Agreement"), until you have carefully read the following terms and conditions.
By copying, installing, or otherwise using the Materials, you agree to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, do not copy,
Accept
Cancel
This software is for testing and demo purposes only.
No production deployment is permitted.
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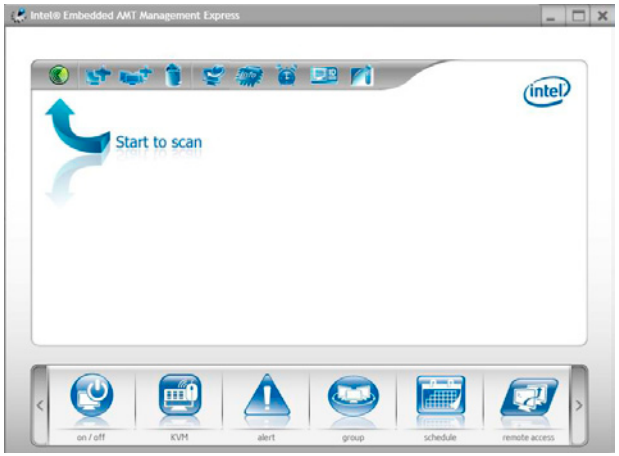
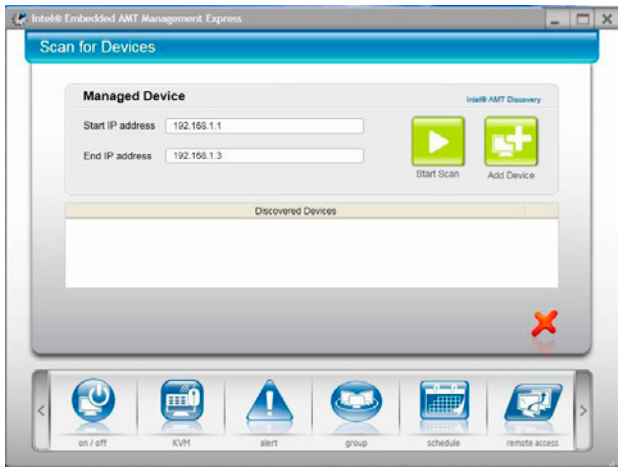
*Other names and brands may be claimed as the property of others.

4. Click the first icon in the toolbar (top row).



5. Enter a range of IP addresses that is within the network to find iAMT computers.

6. Click the **Start Scan** icon.



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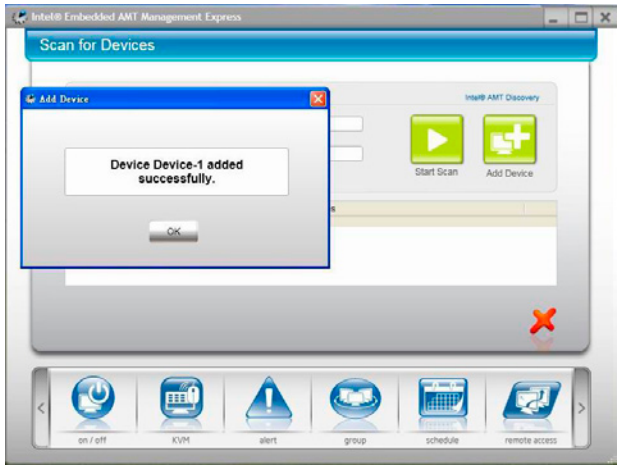
7. The iAMT computers that were detected within the network will appear under the Discovered Devices list.

8. Click **Add Device**. A dialog box will appear.

   Enter the ME BIOS' username "admin" and password. Click **OK**.

9. After you have added the iAMT computer, a dialog box will appear informing you that the device was added successfully. Click **OK**.



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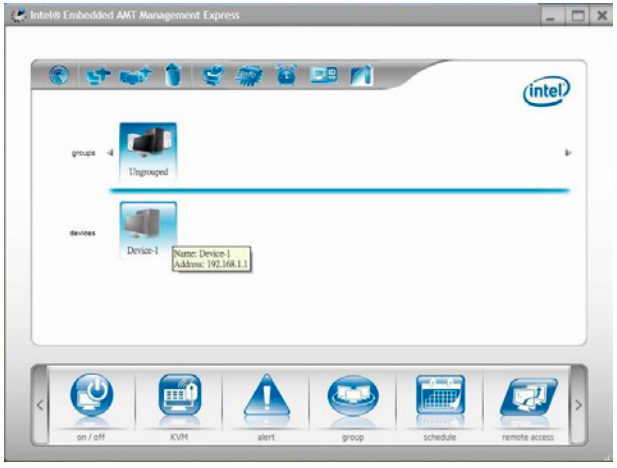
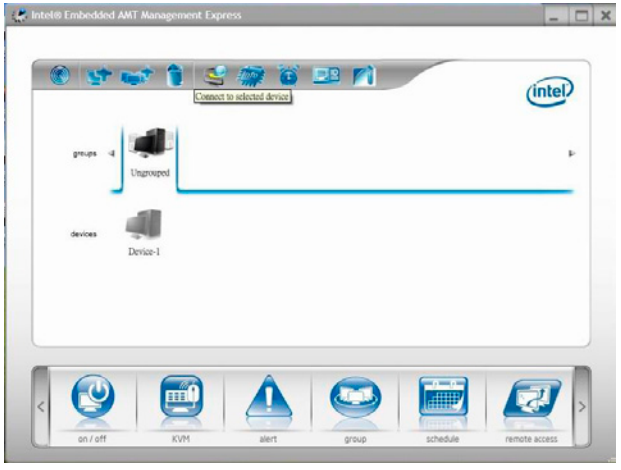
10. In the Intel Embedded AMT Management Express main menu, you will notice the **Device-1** icon in the Device section.

    Move the cursor to **Device-1** and you will see the remote iAMT computer's IP address.



11. Click the 5th icon (Connect to Selected Device) in the toolbar to connect to the remote iAMT computer.



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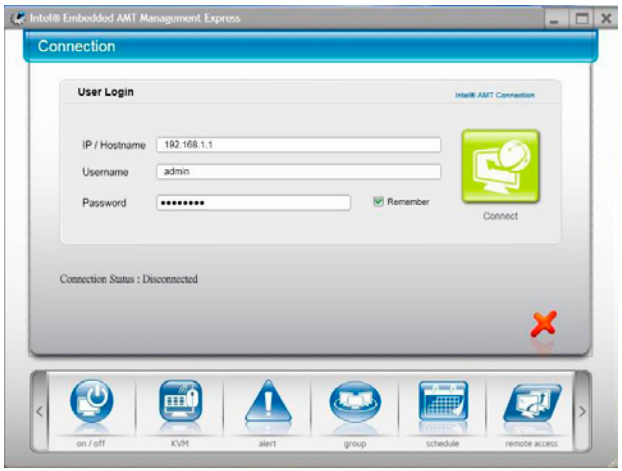
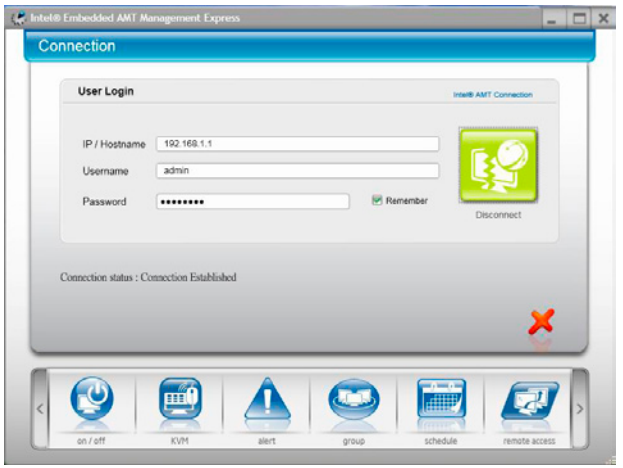
12. In the Connection dialog box, enter the remote computer's IP address, ME BIOS' username "admin" and password.

    Click the **Connect** icon to connect to the remote computer.



13. Once the server is connected to the remote computer, the message **Connection Status: Connection Established** will appear at the bottom of the screen.



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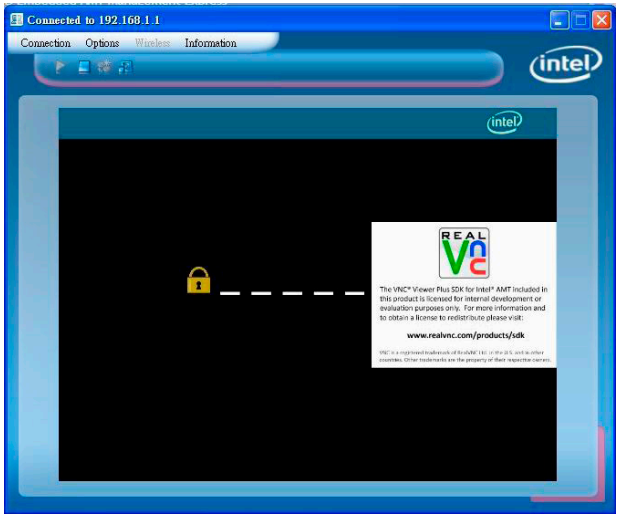
14. In the Intel Embedded AMT Management Express main menu, click the **KVM** icon.

15. The Remote KVM screen will appear. In the KVM Password field, enter the ME BIOS admin's password and then click the **Start Session** icon.

    You will be prompted to enter the **VNC's password**.

    Enter the 6-character password that appeared on the remote computer.



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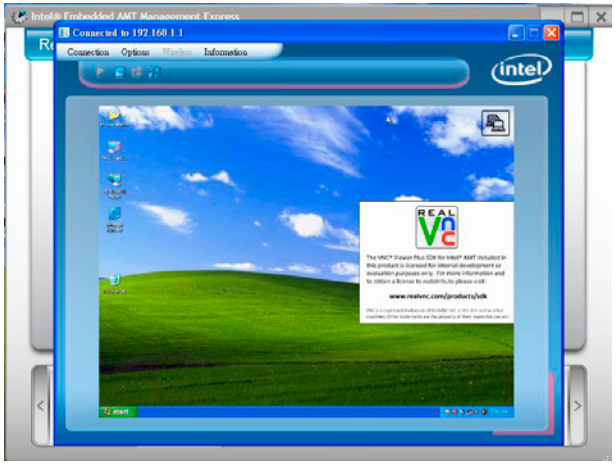
16. When the server is connected to the remote iAMT computer, the server will be able to see the remote computer's current image.



If you entered the wrong password thrice, a message will appear notifying you that the server and remote computer's VNC connection failed. You must click the **KVM** icon again and then select **KVM Viewer Redirect Port** to reconnect.

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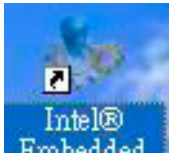
Appendix E: Intel Manageability Command Tool - KVM

1. After installing the Intel Manageability Commander Tool, the **Manageability Commander Tool** icon will appear on your desktop.

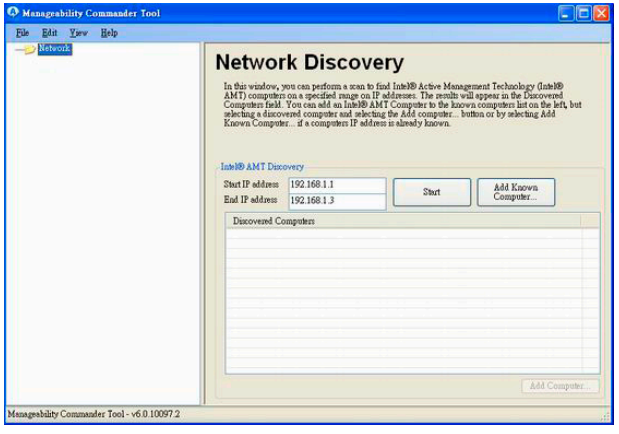


2. Double-click the icon to run Manageability Commander Tool.

   The Network Discovery screen allows you to scan to find iAMT computers (with the ME BIOS configured) on the specified range of IP addresses.

3. Enter a range of IP addresses that is within the network. Enter the **Start IP address** and **End IP address**.

4. Click **Start** to search for iAMT computers that are in the designated range.



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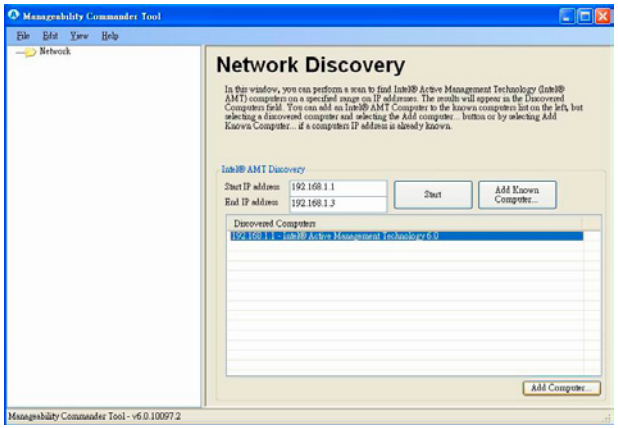
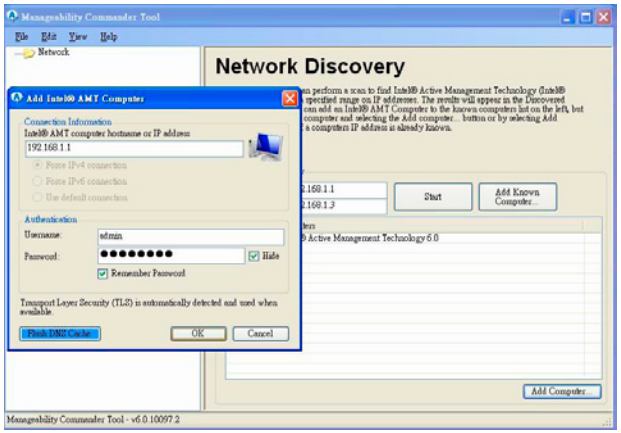
5. The detected iAMT computer will appear in the Discovered Computers field.

   You can either click **Add Known Computer** to add the iAMT computer to the Network list on the left column or double-click the computer name under the Discovered Computers list.



6. After adding the iAMT computer, a dialog box will appear. Enter the username "admin" and password used by the ME BIOS of the iAMT computer.

   Click **OK**.



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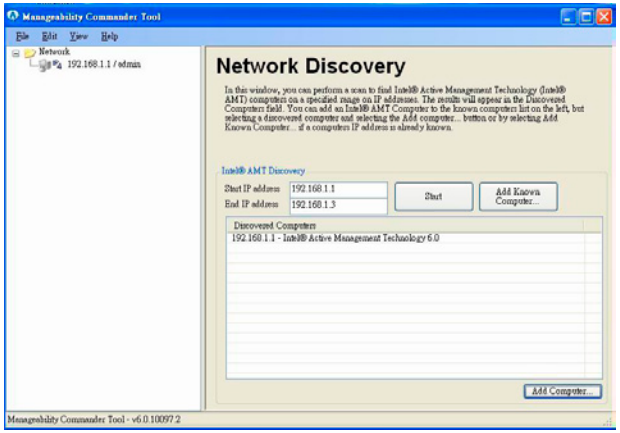
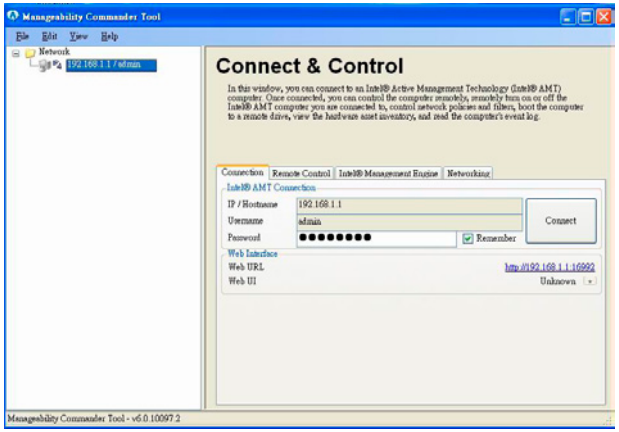
7. The newly added iAMT computer with its IP address will appear under the Network list located at the left column of the screen.


Manageability Commander Tool
File Edit View Help
Network
192.168.1.1 / admin
Network Discovery
In this window, you can perform a scan to find Intel® Active Management Technology (Intel® AMT) computers on a specified range on IP addresses. The results will appear in the Discovered Computers field. You can add an Intel® AMT Computer to the known computers list on the left, but selecting a discovered computer and selecting the Add computer... button or by selecting Add Known Computer... if a computers IP address is already known.
Intel® AMT Discovery
Start IP address 192.168.1.1
End IP address 192.168.1.3
Start
Add Known Computer...
Discovered Computers
192.168.1.1 - Intel® Active Management Technology 6.0
Add Computer...
Manageability Commander Tool - v6.0.10097.2

8. On the left column, under Network, select the iAMT computer. The Connect & Control screen will appear on the right side.

   Select the **Connection** tab and then click **Connect**. The Manageability Commander Tool will connect the iAMT computer with the server.


Manageability Commander Tool
File Edit View Help
Network
192.168.1.1 / admin
Connect & Control
In this window, you can connect to an Intel® Active Management Technology (Intel® AMT) computer. Once connected, you can control the computer remotely, remotely turn on or off the Intel® AMT computer you are connected to, control network policies and filters, boot the computer to a remote drive, view the hardware asset inventory, and read the computer's event log.
Connection
Remote Control
Intel® Management Engine
Networking
Intel® AMT Connection
IP / Hostname 192.168.1.1
Username admin
Password
Remember
Connect
Web Interface
Web URL http://192.168.1.1:16992
Web UI Unknown
Manageability Commander Tool - v6.0.10097.2

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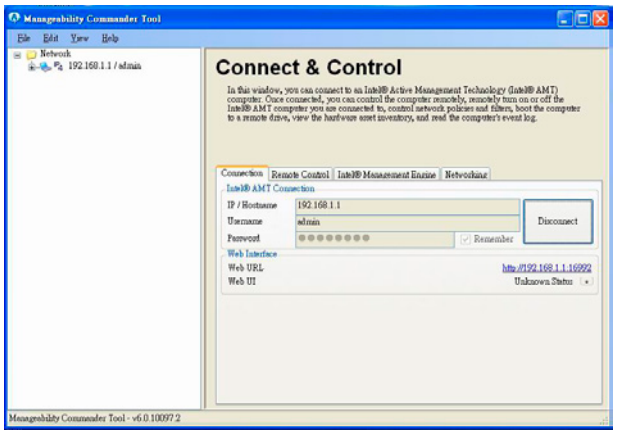
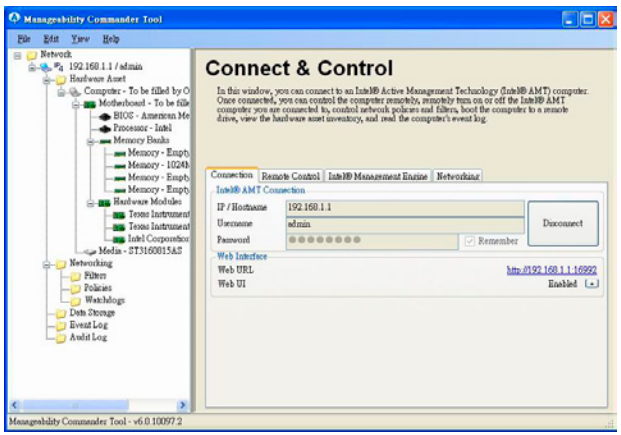
9. The iAMT computer's icon under the Network list will turn from gray to blue. The server and iAMT computer are now connected.



10. Display the hierarchical structure of the iAMT computer's files and folders. This will allow you to view the remote computer's hardware status and configuration.



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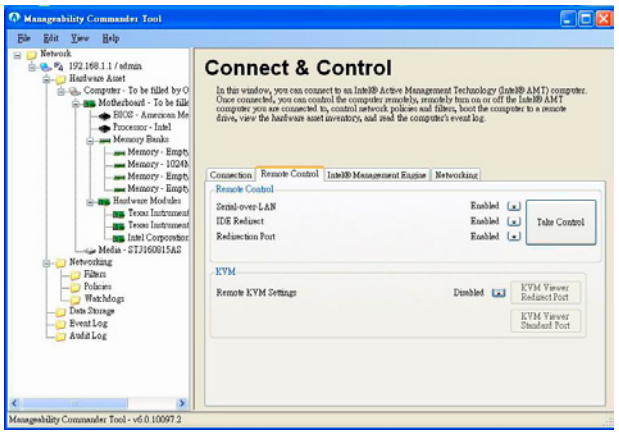
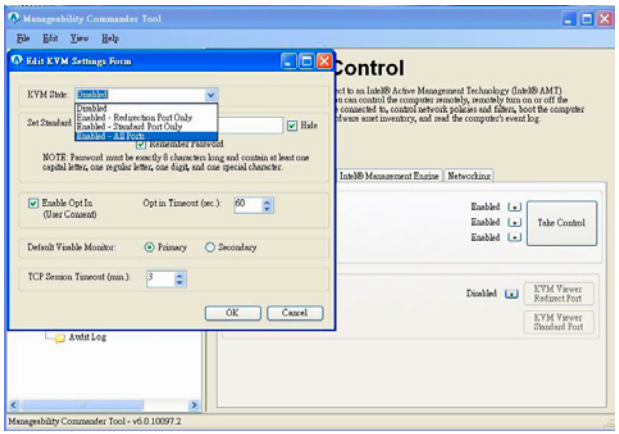
11. On the right side of the screen, select the **Remote Control** tab.

12. Under the KVM section, check whether the Remote KVM Setting's status is All Parts Enabled. If not, click the ↓ arrow beside it.



13. The Edit KVM Settings Form dialog box will appear. In the KVM State field, click the scroll down arrow and then select **Enabled - All Ports**. Click **OK**.



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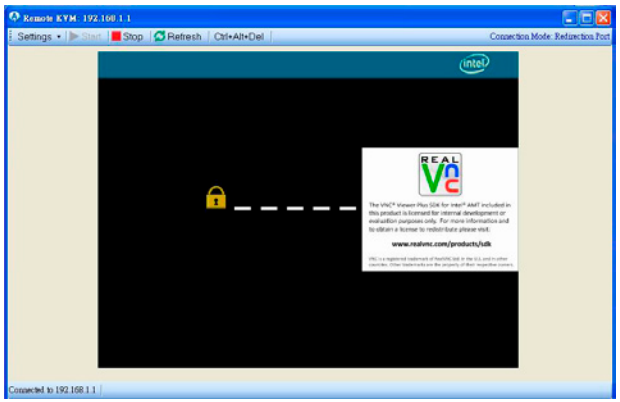
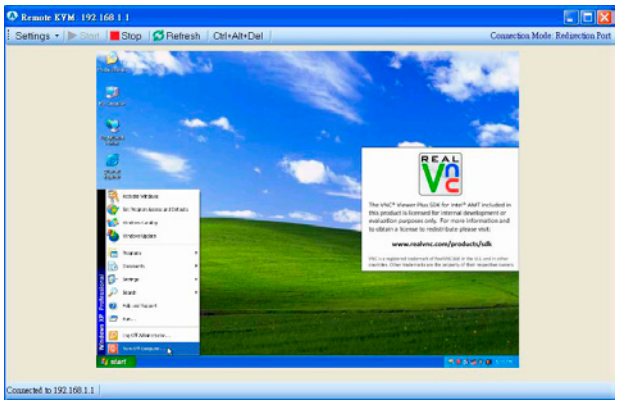
14. The Remote KVM screen will appear. Select **KVM Viewer Redirect Port**. The server will prompt you to enter the VNC's password.

    The remote iAMT's computer will at the same time display the Intel KVM Remote Assistance Application program's 6-character password.



15. After the server entered the 6-character password provided by the remote computer's screen, the server will be able to see the remote computer's current image.



If you entered the wrong password thrice, a message will appear notifying you that the server and remote computer's VNC connection failed. You must click the **KVM** icon again and then select **KVM Viewer Redirect Port** to reconnect.

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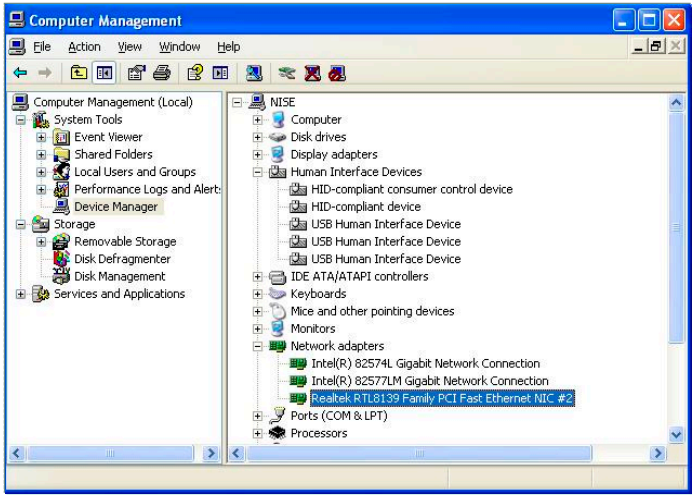
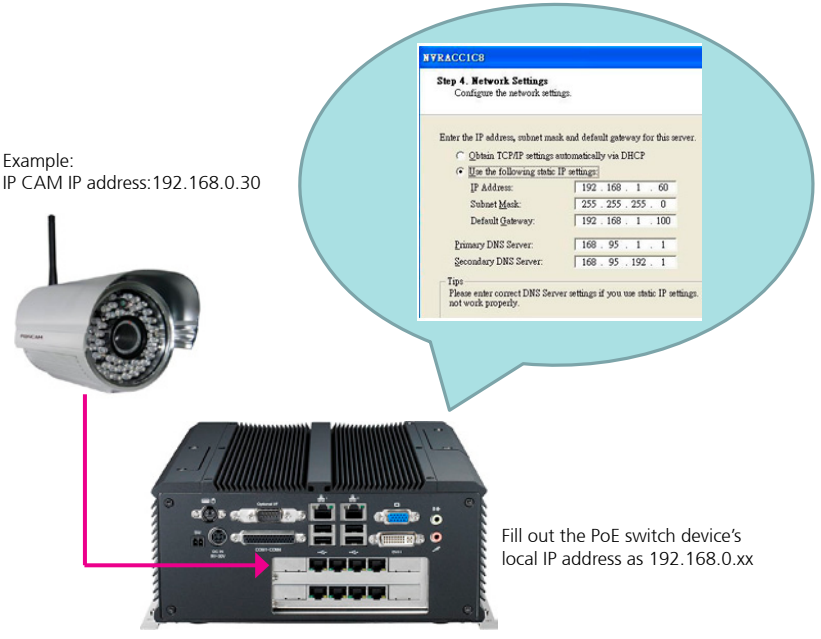
Appendix F: PoE Device Setup

PoE Device Configuration

1. The system will automatically detect the PoE switch device (Realtek RTL8139).



2. Connect the IP camera and then set its IP address.


Example:
IP CAM IP address:192.168.0.30
NVRACC1C8
Step 4. Network Settings
Configure the network settings.
Enter the IP address, subnet mask and default gateway for this server.
Obtain TCP/IP settings automatically via DHCP
Use the following static IP settings:
IP Address: 192 . 168 . 1 . 60
Subnet Mask: 255 . 255 . 255 . 0
Default Gateway: 192 . 168 . 1 . 100
Primary DNS Server: 168 . 95 . 1 . 1
Secondary DNS Server: 168 . 95 . 192 . 1
Tips
Please enter correct DNS Server settings if you use static IP settings. not work properly.
Fill out the PoE switch device's local IP address as 192.168.0.xx

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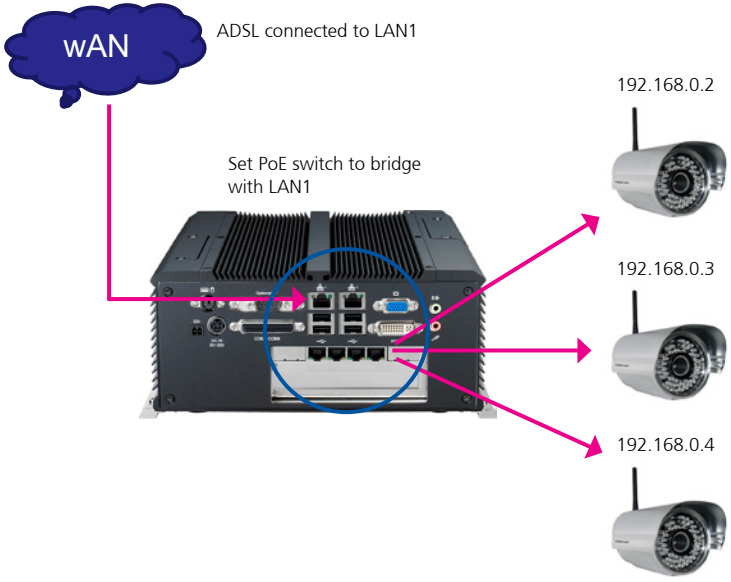
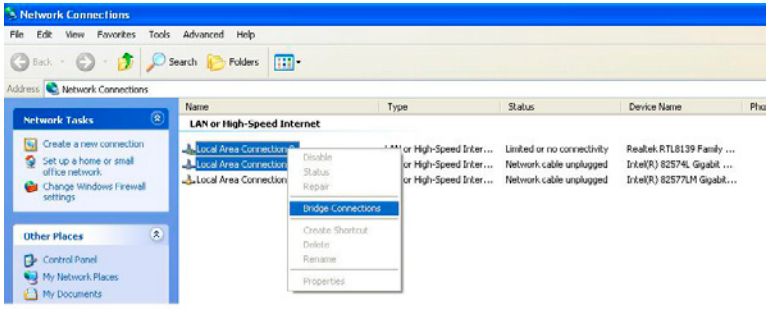
Wireless/LAN Bridge Configuration

1. Wireless LAN can be useful in many scenarios. Refer to the illustration below on how to connect the PoE switch to the Internet.



2. Bridge the Intel LAN and PoE switch device. In the Network Connections dialog box, select the Local Area Connection devices and then right click the selected devices. Select Bridge Connections.



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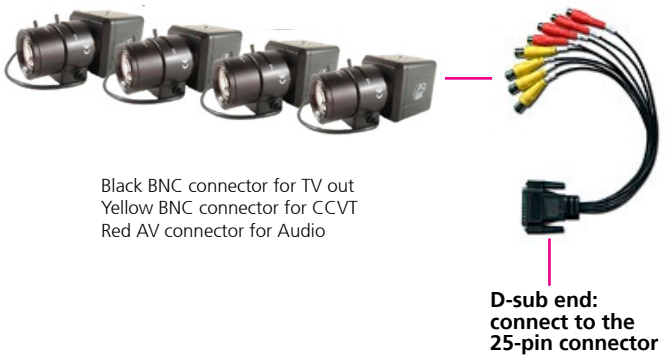
Hybrid DVR Configuration (NViS 3540H only)

Connect Surveillance Cameras

1. The 25-pin connector on the capture card is used to connect surveillance cameras.

2. Connect the D-sub end of the provided cable to the 25-pin connector and the other ends to surveillance cameras.



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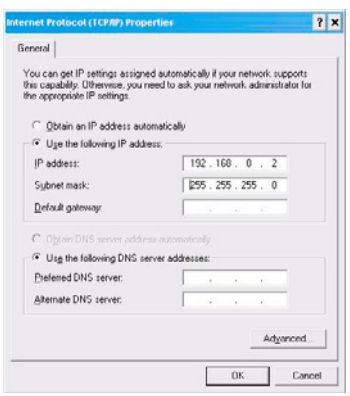
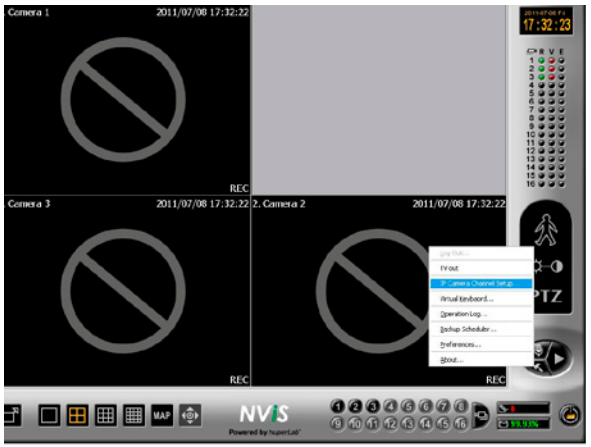
3. Set the IP address to 192.168.0.x.

Analog camera

IP camera


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 2
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

4. Select the IP Camera Channel Setup.



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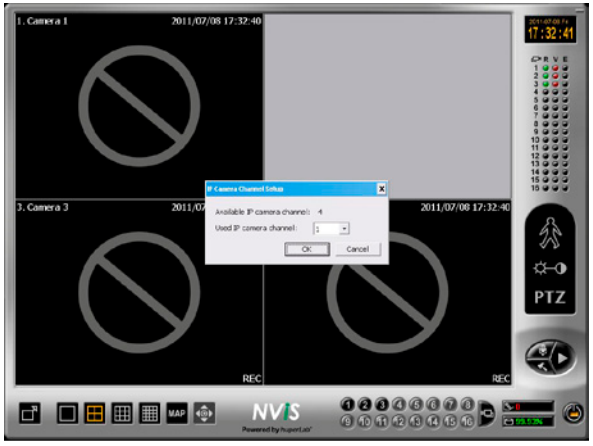
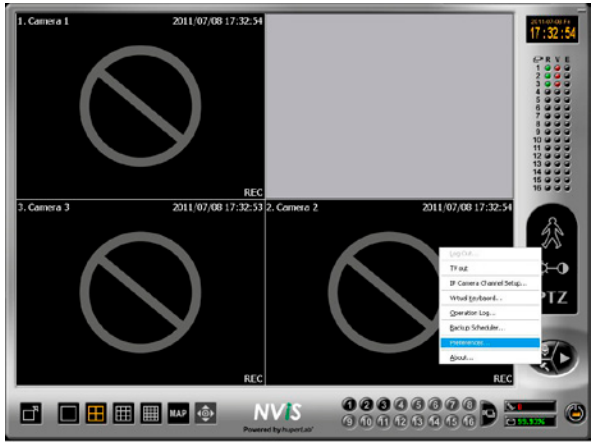
5. In the IP Camera Channel Setup dialog box, select 1.



6. Select Preferences.



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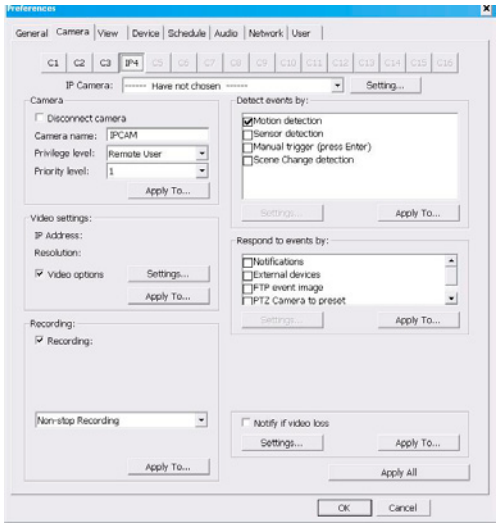
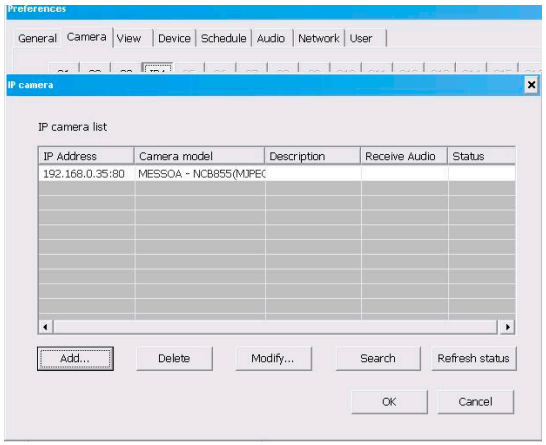
7. Select the Camera tab and then select the IP4 tab. Click Setting.



8. Select the IP address and then click Add.



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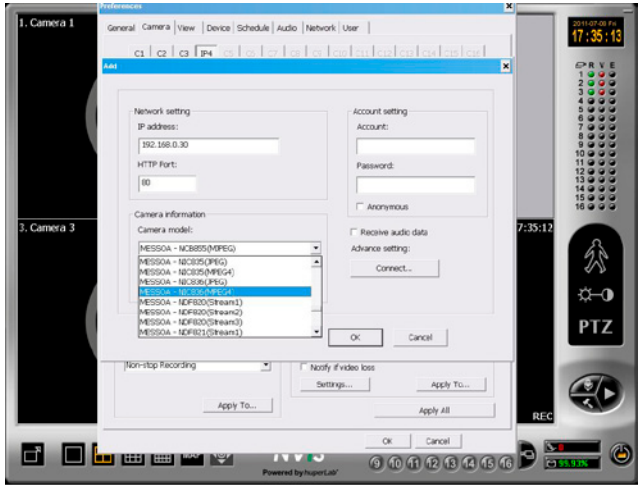
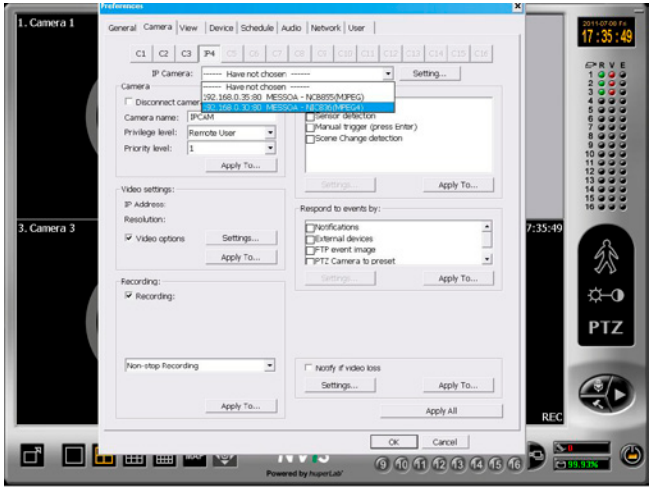
8. Enter the IP address:192.168.0.30 (default setting).

   Under Camera Model, select MESSOA – NIC836(MPEG4) and then click OK.



8. In the IP Camera field, select 192.168.0.30 MESSOA –NIC836(MPEG4).



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Appendix G: Voltage Low Shut-down Setting (NISKIG120)

Voltage Low Shut-down Setting (12V DC Input)

SW1	DIP Switch 1	DIP Switch 2	Start-Up	Shut-Down	Note
00	0=OFF	0=OFF	11.5V	10.5V	Default
01	0=OFF	1=ON	12V	11V	
10	1=ON	0=OFF	12.5V	11V	
11	1=ON	1=ON	12.5V	11.5V	

Voltage Low Shut-down Setting (24V DC Input)

SW1	DIP Switch 1	DIP Switch 2	Start-Up	Shut-Down	Note
00	0=OFF	0=OFF	23V	21V	Default
01	0=OFF	1=ON	24V	22V	
10	1=ON	0=OFF	25V	22V	
11	1=ON	1=ON	25V	23V	

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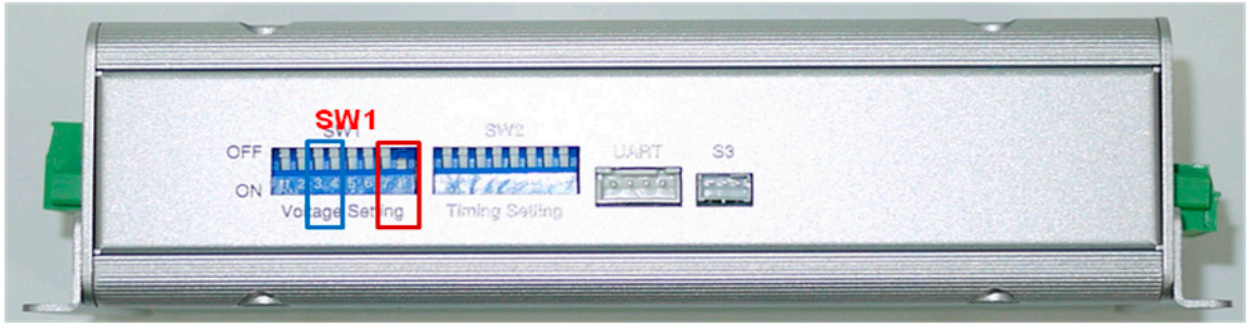
APPENDIX H: DC INPUT & OUTPUT Setting (NISKIG120)



DC Input Setting

SW1	DIP Switch 3	DIP Switch 4	Function Setting	Note
00	0=OFF	0=OFF	12V DC input	Default
01	0=OFF	1=ON	24V DC input	
10	1=ON	0=OFF	Reserved only	
11	1=ON	1=ON	9~36V Power module without Ignition function	

DC Output Setting

SW1	DIP Switch 7	DIP Switch 8	Function Setting	Note
00	0=OFF	0=OFF	Disable	Default
01	0=OFF	1=ON	24V Output	
10	1=ON	0=OFF	19V Output	
11	1=ON	1=ON	12V Output	

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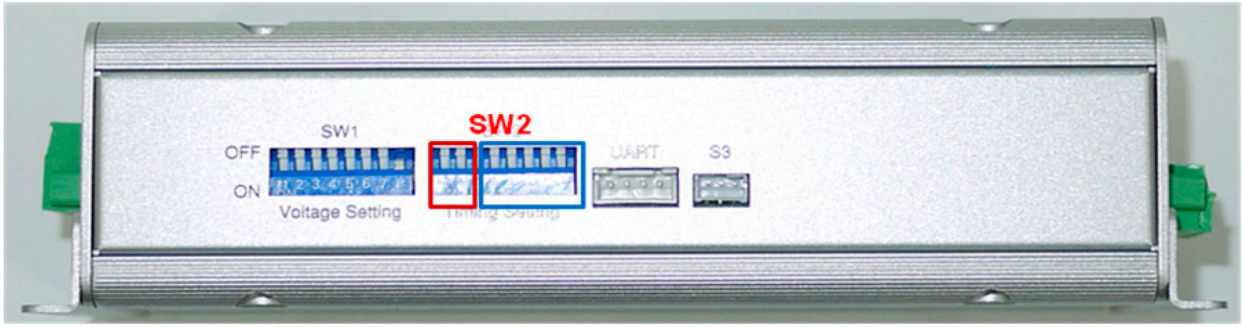
APPENDIX I: POWER ON/OFF Delay Timer Setting (NISKIG120)



Delay Timer Setting

Power On Delay Timer			
SW2	**DIP Switch 1**	**Function Setting**	**Note**
0	0=OFF	Disable (default 3 seconds)	Default
1	1=ON	Enable (DIP Switch 3,4,5)	

Power Off Delay Timer			
SW2	**DIP Switch 2**	**Function Setting**	**Note**
0	0=OFF	Disable (default 0 second)	Default
1	1=ON	Enable (DIP Switch 6,7,8)	

DIP Switch 3, 4, 5 POWER ON Delay Timer Select	
000	10sec
100	30sec
010	1min
110	5min
001	10min
101	15min
011	30min
111	1hour

DIP Switch 6, 7, 8 POWER OFF Delay Timer Select	
000	20sec
100	1min
010	5min
110	10min
001	30min
101	1hour
011	6hour
111	18hour

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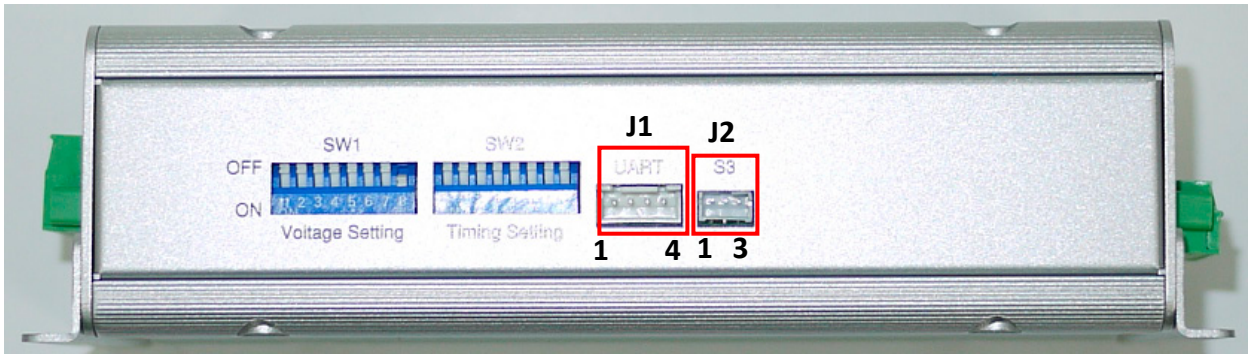
APPENDIX J: MCU PROGRAMMING (NISKIG120)



J1 : MCU programming port (RS232 signal)	
1	GND
2	COM TX (Output)
3	COM RX (Input)
4	N/A

J2 : System port	
1	GND
2	Power ON Button (Output)
3	SLP_S3 IN (Input)
4	N/A

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